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Baltimore District



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October 30, 2015



COMBINED PRELIMINARY-FINAL SUBMISSION FOR NATIONAL CAPITAL PLANNING COMMISSION

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

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Record of Environmental Consideration.....	A1 - A9
Compact disc of submittal	
Relevant Construction Documents, full size, bound (under separate cover)	
Submittal documents, 8 1/2” x 14” size, stapled (under separate cover)	

October 30, 2015



DEPARTMENT OF THE ARMY
WASHINGTON AQUEDUCT
U.S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
5900 MACARTHUR BOULEVARD, N.W.
WASHINGTON, D.C. 20016-2514

September 8, 2015

Ms. Jennifer Hirsch
Federal Preservation Officer
Urban Design and Plan Review
401 9th Street, N.W., Suite 500
Washington, DC 20004

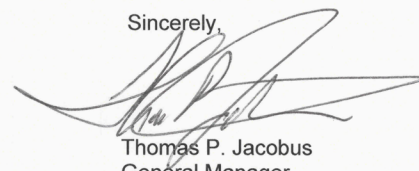
Dear Ms. Hirsch:

The Washington Aqueduct requests Preliminary Review from the National Capital Planning Commission for our McMillan Plant's East Shaft Pumping Station Rehabilitation project. The submission package is attached.

The "Washington City Reservoir; McMillan Park Reservoir and Sand Filtration Plant" was accepted into the Register of Historic Places Certification in 2013. Our project areas are included in this Register. As such, our project is subject to Section 106 of the National Historic Preservation Act of 1966 and the DC State Historic Preservation Office (SHPO) has been contacted. Mr. C. Andrew Lewis, Senior Historic Preservation Specialist with the DC SHPO received the precursor presentation to your submission on May 6, 2015. Mr. Lewis is generally in agreement with our proposed approach to the rehabilitation, as he noted in a telephone conversation with our Architect, Lonia Adams, on May 8, 2015. A copy of his most recent email is included in this submission.

The Washington Aqueduct anticipates a finding of no adverse effect for this undertaking. If you have any questions, my point of contact for this action is Michael Vantzelfden, at 202-764-0035 or michael.w.vantzelfden@usace.army.mil.

Sincerely,



Thomas P. Jacobus
General Manager
Washington Aqueduct

Enclosure

150 Years of Proudly Providing Water to the Nation's Capital
1853 – 2003

LETTER OF REVIEW REQUEST

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

From: [Hirsch, Jennifer](#)
To: ["Michael.W.Vantzelfden@usace.army.mil"; "Adamst2@bv.com"](#)
Cc: [Lewis, Andrew](#); [Lindstrom, Frederick](#)
Subject: East Shaft Pumping Station at McMillan Reservoir- Submission to NCPC
Date: Tuesday, August 11, 2015 5:51:07 PM
Attachments: [RE East Shaft Pumping Station Rehabilitation project at McMillan Reservoir.msg](#)

Mr. Vantzelfden,

Thank you for submitting the plans for the East Shaft Pumping Station Rehabilitation to NCPC for our preliminary review. I have attached my email from this past June with our comments. This is the type of project that we typically would process as a combined preliminary and final review after you have concluded Section 106. We are supportive of using vegetation to screen the new mechanical equipment and agree that the project would not have adverse effects on historic properties. We understand that you are also submitting to CFA for their upcoming meeting. We will take any comments from CFA into consideration as well as any additional comments from the DC SHPO when we review the project in the future.

If you have any questions, please let me know.

Thank you,
Jennifer

Jennifer Hirsch
Federal Preservation Officer | Urban Design and Plan Review | 202.482.7239
401 9th Street, N.W. | Suite 500
Washington, D.C., 20004
jennifer.hirsch@ncpc.gov
www.ncpc.gov

NCPC COMMUNICATION REGARDING THIS SUBMITTAL

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

GOVERNMENT OF THE DISTRICT OF COLUMBIA
STATE HISTORIC PRESERVATION OFFICE



DC STATE HISTORIC PRESERVATION OFFICE
FEDERAL AGENCY SECTION 106 REVIEW FORM

TO: Mr. Michael Vantzelfden, USACE and Ms. Lonia Adams, Black & Veatch Special Projects Corp.

ADDRESS: Via email to: Michael.W.Vantzelfden@usace.army.mil and AdamsL2@bv.com

PROJECT NAME/DESCRIPTION: Building Modifications and Replacement of Exterior Mechanical Equipment at the East Shaft Gatehouse Pumping Station ("Site A") and In-Kind Replacement of Equipment at the Intake Structure ("Site B")

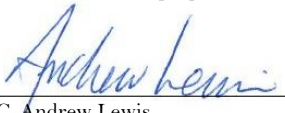
PROJECT ADDRESS/LOCATION DESCRIPTION: McMillan Reservoir

DC SHPO PROJECT NUMBER: 15-0253

The DC State Historic Preservation Office (DC SHPO) has reviewed the above-referenced federal undertaking(s) in accordance with Section 106 of the National Historic Preservation Act and has determined:

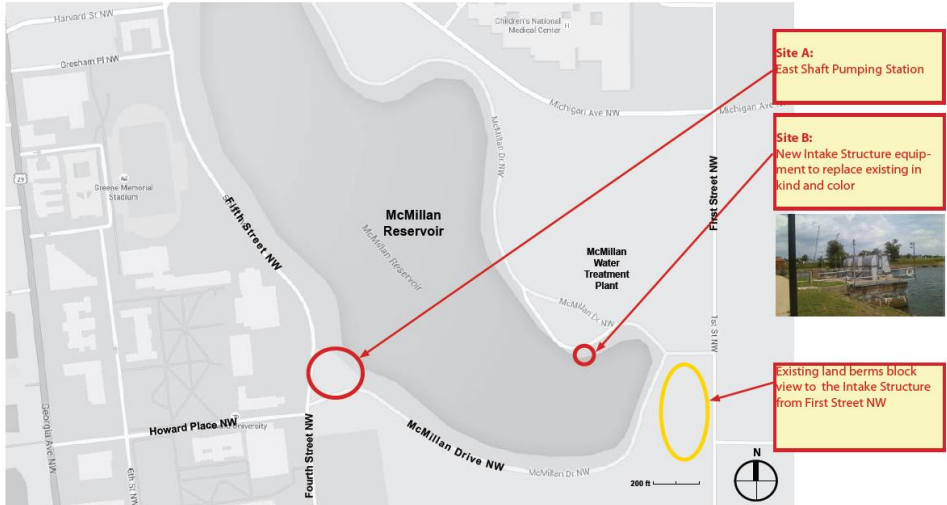
- ☐ This project will have **no effect** on historic properties. No further DC SHPO review or comment will be necessary.
- ☐ There are **no historic properties** that will be affected by this project. No further DC SHPO review or comment will be necessary.
- ☒ This project will have **no adverse effect** on historic properties. No further DC SHPO review or comment will be necessary.
- ☐ This project will have **no adverse effect** on historic properties **conditioned upon** fulfillment of the measures stipulated below.

Thank you for coordinating the above-referenced undertaking with our office. Based upon the consultation to-date, we understand that the proposed work consists of replacing the existing mechanical equipment/adding new equipment on the southeast side of the East Shaft Gatehouse Pumping Station; introducing new trees and shrubs to screen the equipment; modifying some of the existing windows to serve as louvers; replacing the front door based upon historic documentation; and making other relatively minor interior modifications. In addition, the non-historic "intake structure" equipment on the east side of the reservoir will be replaced in-kind. The attached documentation summarizes many of the most relevant details. After carefully reviewing the various plans and submittals and in consideration of the fact that CFA and NCPC have no objections to the proposed work, we concur with the U.S. Army Corps of Engineers' determination that this undertaking will have "no adverse effect" on historic properties.

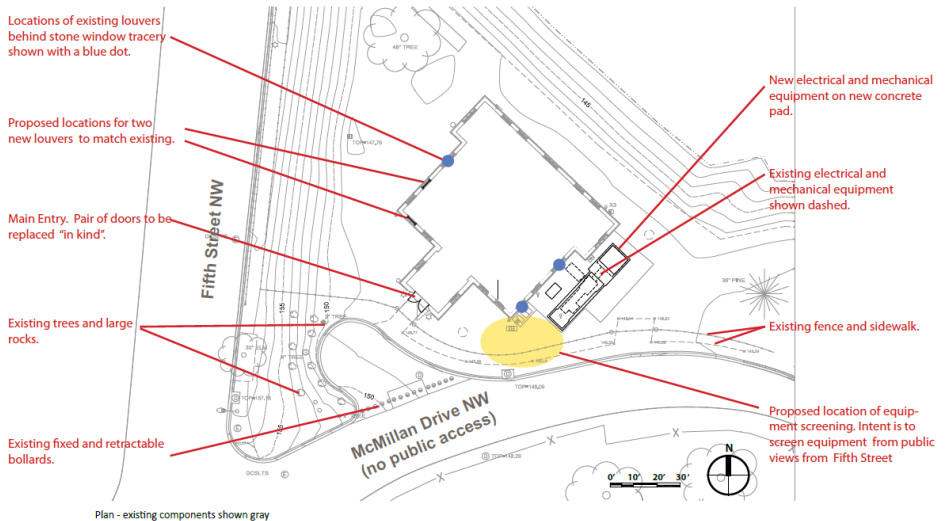
BY: 
C. Andrew Lewis
Senior Historic Preservation Specialist
DC State Historic Preservation Office

DATE: October 1, 2015

Section 106 Review: East Shaft Gatehouse Pumping Station Project
October 1, 2015
Page 2



Vicinity map of McMillan Reservoir from Google Maps



1100 4th Street, S.W., Suite E650, Washington, D.C. 20024 Phone: 202-442-7600 Fax: 202-442-7638

DC SHPO SECTION 106 REVIEW FORM

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.



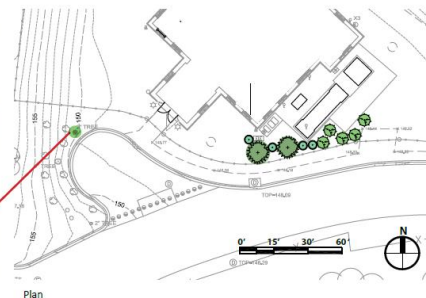
Section 106 Review: East Shaft Gatehouse Pumping Station Project
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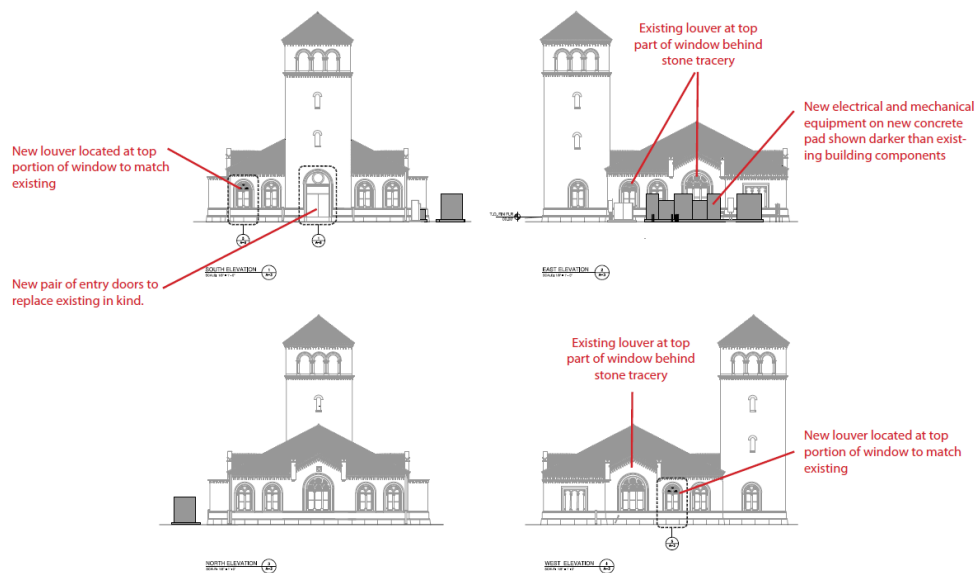
Existing evergreen to the west of the Pumping Station believed to be a *Pinus parviflora* Blue Angel White Pine

New living screen of plants.

- Proposing evergreen species to coordinate with newly planted evergreen to the west. Little or no pruning maintenance planned.
- Spacing is random and is meant to integrate with existing landscape
- The landscape has been designed to fit between existing below grade utilities.
- The plant material is specified to be of a size range that will create an immediate screening impact. Transplant shock slows growth significantly for 1-3 growing seasons. However, the expected visual impact is expected to be achieved in 3-5 years.

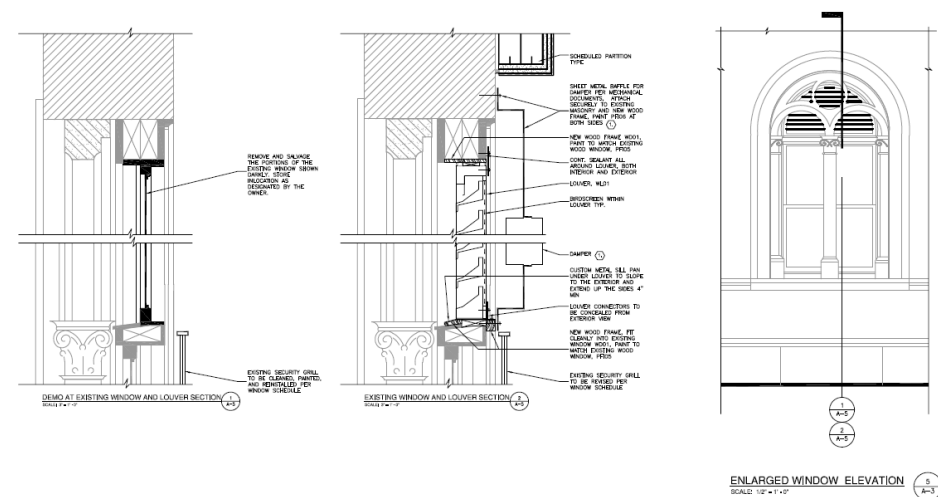


Looking northeast from Fifth Street sidewalk

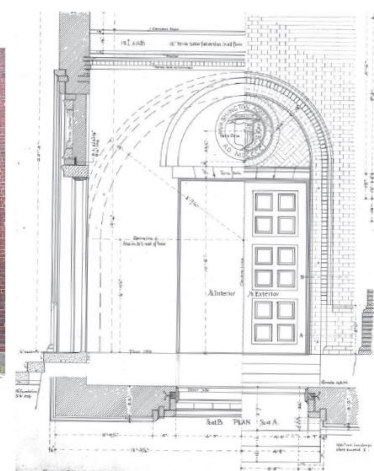


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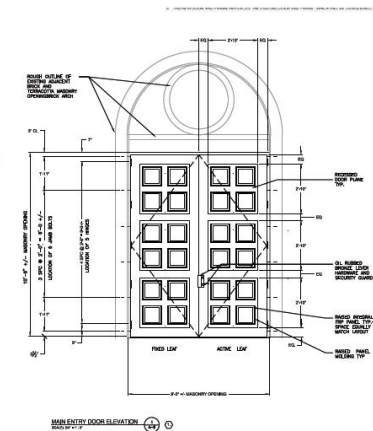
Section 106 Review: East Shaft Gatehouse Pumping Station Project
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Existing doors and frames to be removed. These doors are cast Fiberglass Reinforced Plastic. Photo taken March 2015.



Partial Drawing of the pair of Entry Doors drawn by Macomb and Calvert Architects, Philadelphia. Drawing thought to be completed in 1901 judging from the Roman numeral date in the seal over the door. Design team assumes these were constructed of wood.



Current drawing of proposed Entry Doors and frame meant to approximate Macomb and Calvert Architect design (seen at left). These are currently designed to be cast from Fiberglass Reinforced Plastic for maximum durability and low maintenance. The DC SHPO has expressed a preference for the door to be constructed of wood if possible. The new door pair will swing out, to meet current life safety egress code requirements, in lieu of the in-swinging doors existing now.

1100 4th Street, S.W., Suite E650, Washington, D.C. 20024 Phone: 202-442-7600 Fax: 202-442-7638

DC SHPO SECTION 106 REVIEW FORM

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
McMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

Adams, Lonia

From: Lewis, Andrew (OP) [andrew.lewis@dc.gov]
Sent: Wednesday, May 06, 2015 9:22 AM
To: Adams, Lonia
Subject: RE: East Shaft Pumping Station at McMillan Reservoir

Hello Lonia:

Thank you for the phone call. I had hoped to review the package by now but have not yet had an opportunity. I do hope to get to it and provide some initial comments by week's end.

C. Andrew Lewis
Senior Historic Preservation Specialist
DC State Historic Preservation Office
Office of Planning
1100 4th Street, SW, Suite E650
Washington, DC 20024
Phone: 202-442-8841
Fax: 202-442-7638
andrew.lewis@dc.gov
www.planning.dc.gov/hpo

From: Adams, Lonia
Sent: Monday, April 13, 2015 3:50 PM
To: 'andrewlewis@dc.gov'
Cc: 'Benjamin.C.Strause2@usace.army.mil'; 'Michael.W.Vantzelfden@usace.army.mil'; Baskette, Peter; McKenzie, Thomas
Subject: RE: East Shaft Gatehouse at McMillan Reservoir

Dear Andy:

Hope you are well.

You and I spoke on February 20, 2015 about some renovations to the East Shaft Pumping Station at the McMillan Reservoir. I am the architect working with the DC Washington Aqueduct division. (This building resides just south west of the McMillan Reservoir on Fifth Street NW and is referred to as the "East Shaft Gatehouse Building M1" in the National Register of Historic Places Registration Form , 12.28.2012.)

Because of the low impact of these revisions, you and I agreed that a discussion by phone would be best. I attach a presentation outlining the proposed revisions and options. The Washington Aqueduct representative, Ben Strause, and I would like to arrange a time that we can discuss these revisions by phone.

Please let me know a convenient time to meet and I can arrange a conference call. We look forward to talking further!

Best regards,

Lonia Adams AIA, LEED AP | Senior Architect
Black & Veatch Special Projects Corp. | 8955 Guilford Road, Suite 260, Columbia, MD 21046
+1 410-309-3815 p | +1 410-290-7171 f | AdamsL2@BV.com
Licensed in California and Maryland
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Adams, Lonia

From: Adams, Lonia
Sent: Thursday, July 30, 2015 1:17 PM
To: 'Lewis, Andrew (OP)'
Cc: Michael.W.Vantzelfden@usace.army.mil; Kevin.L.Haskins@usace.army.mil; Baskette, Peter; McKenzie, Thomas
Subject: RE: East Shaft Pumping Station for Washington Aqueduct

Good afternoon Andrew:

As a follow up to our conversation yesterday I offer the following synopsis of our conversation.

1. The main purpose of our conversation was to address your concerns regarding our DRAFT presentation for the NCPC I sent to you this past Monday July 27. Our intent is that the final presentation will be received by the NCPC and CFA this Friday July 31.
2. Item 1(below in email): We agreed that the presentation did not include the full conversations that have happened and B&V will revise the presentation to include specifically the May 11 email you mention. I will also include this email synopsis.
3. Item 2: We discussed the concern about the Serbian Spruce evergreen growing to a size that covers the building façade. The intent was to use a spruce variety, maybe dwarf that did not grow any higher than 12'—even so the Landscape Architect acknowledges that this particular plant can be unruly. We also discussed the possibility of removing the Serbian Spruce altogether and allowing the Fosters Holly and Mug Pine to do the screening. We agreed that this will be left to the Landscape Architect to decide –with the shared understanding that exposing the full building facade is important.
4. Item 3: We reviewed the drawings received from the Washington Aqueduct of the entry doors. Happily these drawings are by the original building architect Macomb & Calvert, Philadelphia and appear to be dated circa 1901 judging from the roman numerals on the seal over the door. B&V will duplicate these elevations for the new proposed entry doors. The new doors are currently specified to be constructed of cast Fiberglass Reinforced Plastic (FRP)—the same material used for the existing entry doors. The fiberglass is specified for its durability and low maintenance properties. You expressed a strong preference that these doors be constructed of wood. We both agree that the original doors would have most likely been wood. The hardware is not detailed in the Macomb & Calvert drawings, so B&V will need to make an educated decision on modern hardware that most fits this older building.
5. Item 4: We reviewed the images I sent of the Site B Intake Screen Structures and agreed that there is no new "screen" construction as the screens are actually filters, not fences or screens. These structures will be replaced/renovated with new and finished with the same color paint. You agreed that there is no issue with these new structures.
6. Item 5: Yes I agree that the red circle on the cover page is in the wrong location and will be corrected. Thank you for catching this.
7. In discussing the submission to NCPC and CFA we realized that I had not copied you on a synopsis of my conversations with these two agencies I wrote May 29, 2015. This synopsis is attached here for your reference.
8. You are in general acceptance of this current proposed project rehabilitation.
9. Next steps:
 - a. You will need us to provide you a summary of comments from the NCPC and CFA after their respective reviews.
 - b. You will provide a Letter of Determination to the Washington Aqueduct when the NCPC, CFA, and SHPO comments/concerns have all been addressed.

Andrew, I sincerely appreciate your willingness to respond so quickly to address this project needs. Please let me know if I have misrepresented our conversation in any way.

Best Regards,

Lonia Adams AIA, LEED AP | Senior Architect

Black & Veatch Special Projects Corp. | 8955 Guilford Road, Suite 260, Columbia, MD 21046

+1 410-309-3815 P | +1 410-290-7171 F | AdamsL2@BV.com

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From: Lewis, Andrew (OP) [mailto:andrew.lewis@dc.gov]

Sent: Tuesday, July 28, 2015 3:19 PM

To: Adams, Lonla

Cc: Michael.W.Vantzelfden@usace.army.mil; Kevin.L.Haskins@usace.army.mil; Baskette, Peter; McKenzie, Thomas

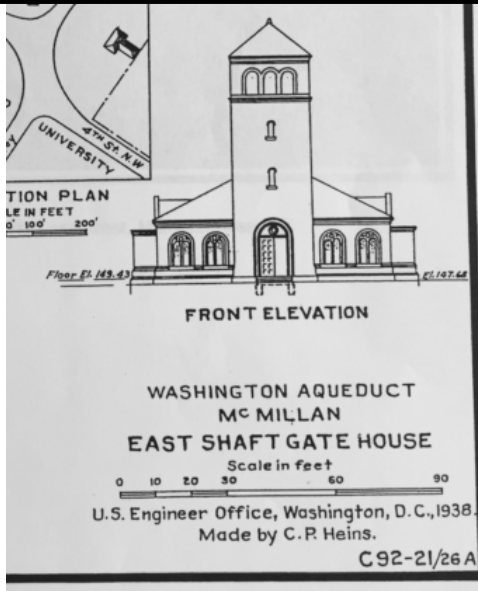
Subject: RE: East Shaft Pumping Station for Washington Aqueduct

Hello Lonla:

Thank you for providing a revised project report. While we remain generally supportive of most of the proposed treatments, only one section of the report includes comments from our office.

1. Unfortunately, it consists of a May 6th email indicating I would get back in touch after completing my review (see Page 1). As you will recall, I called two days later and explained my initial comments and questions. You summarized our conversation on May 11th (see "SUMMARY EMAIL" below). I had no significant concerns with your summary and would prefer that the draft report be revised to include a brief description of that summary rather than the May 6th email.
2. As for the newly proposed changes, we understand that a landscape plan has been developed but we continue to caution against locating vegetation too close to the primary elevation. The idea is to block views of the equipment rather than of the building. This may be especially problematic when the "Serbian Spruce" that is closest to the front, central tower reaches its full size (see Page 10 of the report). Smaller plants would seem to be sufficient nearest the tower.
3. With regard to the proposed door replacement, we are not entirely convinced that the design of the existing door, or the door proposed in the 2002 rehabilitation plans, is historically accurate. Research suggests that the East Shaft Pumping Station was altered in the 1930s and while the c1938 drawing below suggests a multi-panel door similar to what is proposed in the report, it is difficult to determine whether that design was based upon historic conditions. Images of historic doors from other buildings at the McMillan Reservoir suggest a simpler design may have been used. Before completing our review of the door replacement project, we request the Army Corps of Engineers to check its files for any original drawings that may exist of the East Shaft Gate House so that we can be sure the final design is as historically accurate as possible.

2



4. On a related note, our comments and concerns have focused primarily on the Pumping Station but we also need to review some images/plans for the "Site B Intake Structure" to make sure we have no concerns regarding that aspect of the work.

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DC SHPO REVIEW COMMENTS

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

October 30, 2015

5. Finally, the red circle on the cover of the report which is meant to indicate the location of the East Shaft Gate House should be corrected.

Please let me know if you have any additional questions or comments. Otherwise, we look forward to receiving any additional comments from NCPC & CFA and to completing our review.

Best regards,

C. Andrew Lewis
Senior Historic Preservation Specialist
DC State Historic Preservation Office
Office of Planning
1100 4th Street, SW, Suite E650
Washington, DC 20024
Phone: 202-442-8841
Fax: 202-442-7638
andrew.lewis@dc.gov
www.planning.dc.gov/hpo

4

Adams, Lonia

From: Lewis, Andrew (OP) [andrew.lewis@dc.gov]
Sent: Thursday, October 01, 2015 10:45 AM
To: Vantzelfden, Michael W WAD; Adams, Lonia
Cc: Hirsch, Jennifer
Subject: Final Section 106 Review of the McMillan Reservoir East Shaft Pumping Station Project
Attachments: USACE McMillan Reservoir East Shaft Gatehouse Pumping Station Replacement of Exterior Mechanical Equipment.pdf

All:

Thank you for carefully coordinating the above-referenced undertaking with the DC State Historic Preservation Office. We have completed our review and concur that the project will have “no adverse effect” on historic properties. Our comments are provided in the attached memorandum. Please contact me if you should have any additional questions or comments.

Best regards,



C. Andrew Lewis • Senior Historic Preservation Specialist
DC Historic Preservation Office, DC Office of Planning
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<http://planning.dc.gov/historicpreservation>

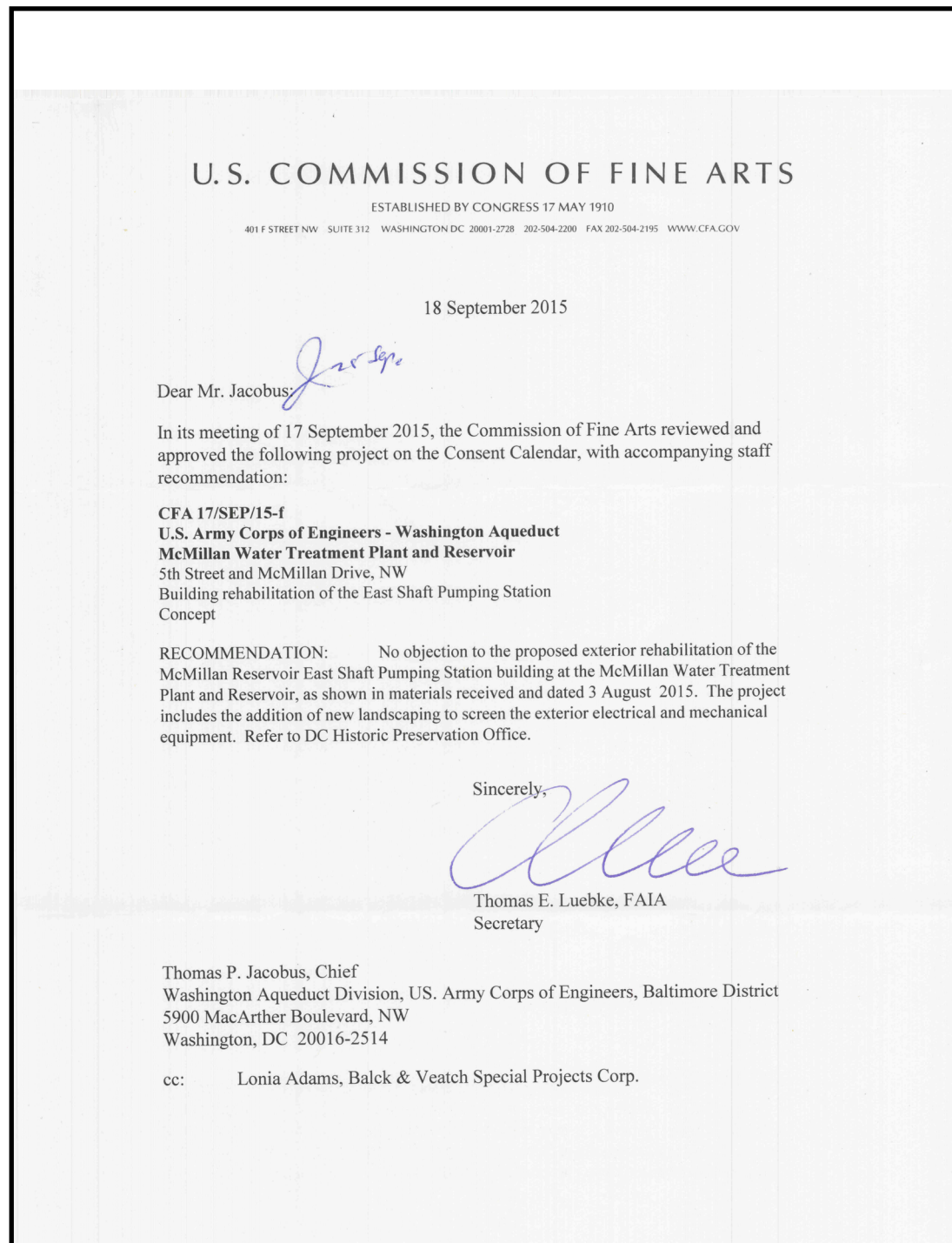
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DC SHPO REVIEW COMMENTS

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

October 30, 2015



CFA LETTER OF CONCEPT REVIEW “NO OBJECTION”

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

HISTORIC PRESERVATION COMMUNICATION and NOTES

East Shaft Pumping Station

Prepared by Black and Veatch, Lonia Adams Architect

May 29, 2015

Commission of Fine Arts (CFA)

I talked to Frederick Lindstrom, which is our contact at CFA, on Friday. I sent him our most recent Concept Presentation by email.

Frederick Lindstrom

Assistant Secretary

(202)504-2200

flindstrom@CFA.gov

He called me back and by phone we discussed:

- I tried to arrange a conference call with him, WA, and B&V attending but he did not feel that this was necessary at this stage.
- He agreed with the DC SHPO, Andrew Lewis, that the louvers and new electrical equipment are acceptable as shown.
- He saw no additional options to explore regarding the equipment screening. He sees the Option 2 screening as the most viable screening option. He suggested we submit this project for Concept review to CFA i.e. follow their submittal procedure defined in their website. He would like to see the following revisions included in the Concept Review submittal though:
 - Include the recommendations of a Landscape Architect. He is looking for a Landscape Architect's recommended species, spacing of the trees, and expected date of maturity.
 - He is looking for a plant species that integrates well with the existing landscape and is "strategically placed to divert the eye" (his words)
 - He is not looking for the plant screening to be quite as dense as shown in the rendering.
 - He expects that this project will become a "consent calendar item", which means he expects to like our Concept submittal and will say so at the review meeting. If so, we will most likely not be required to appear at the CFA public hearing.

Next steps:

- Obtain Landscape Architect recommendations
- Prepare Concept Review submittal. (Submission requirements are attached.) The submittal deadline is the first Thursday of every month, with the exceptions of August and December when they do not hold a review meeting.

Page 1 of 2

National Capital Planning Commission (NCPC)

I talked to David Levy, which is our contact at NCPC, on Friday. I sent him our most recent Concept Presentation by email. He responded twice to me that day regarding our project.

David Levy

Special Advisor to the Executive Director

(202)482-7247

David.Levy@NCPC.gov

1) by phone we discussed :

- I tried to arrange a conference call with him, WA, and B&V attending but he did not feel that this was necessary at this stage.
- He agreed with the DC SHPO, Andrew Lewis, that the louvers and new electrical equipment are acceptable as shown.
 - He wondered if the NEPA (National Environmental Policy Act) regulations would give this project a No Adverse Effect status. Subsequently he checked the NCPC regulations and found that his agency does allow an environmental impact Categorical Exclusion for:
 - "Repair and replacement of electrical components "
 - "Repair and replacement of exterior components "
 - Therefore his Agency would give this project an environment No Adverse Effect status.
 - He would like confirmation that USACE also has an environmental impact Categorical Exclusion for this type of work.

2) by email he said:

- *"I have asked our Federal Preservation Officer, Jennifer Hirsch, to take a look at these materials and advice. She has already discussed the project briefly with Andrew Lewis. "*

Next steps:

- We will need to wait to hear back from David regarding Ms. Hirsch comments before we can proceed with this agency.
- We will need to confirm the USACE Categorical Exclusion for environment impact prior to any submittal to this agency.

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NCPC and CFA COMMUNICATION NOTES

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT

McMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.



West view looking at the Reservoir

Project Description

Overview: The Washington Aqueduct division is planning some renovations to several structures residing around the McMillan Reservoir. The projects are known as The East Shaft Pumping Station Rehabilitation and this document highlights the portions of interest to the State Historic Preservation Office, Commission of Fine Arts, and National Capital Planning Commission in the District of Columbia.

The two areas of exterior renovation work are the East Shaft Pumping station and Intake Structure which are labeled as site A and B on the enclosed Vicinity Map. Both sites are incorporated as part of the 2013 Register of historic places Certification for the “Washington City Reservoir; McMillan Park Reservoir and Sand Filtration Plant”. The majority of the planned renovation is interior work and as such will not be covered in this report.

Site A is the East Shaft Pumping Station located at Fifth/Fourth Street NW and McMillan Drive NW. The Pumping Station building is referred to in the certification as the East Shaft Gatehouse (Building M1). The building was constructed in 1901 in a northern Italian Romanesque style. The main purpose of the renovation is to replace the broken water pump located inside the building and the aging electrical equipment located outside, on the east side of the building. Again, the majority of the work is on the interior.

Site A Electrical And Mechanical Equipment Screening: As part of the pump replacement the existing electrical substation and mechanical equipment, both exterior and interior, will be replaced with a new system. The new exterior equipment will reside in approximately the same location as the existing apparatuses, on the south east side of the building. The equipment is slightly visible from Fifth/Fourth Street NW and associated sidewalks which are public ways. The equipment is also visible from McMillan Drive NW, but this avenue is not a public road and therefore no screening will be required from views along this road. The Washington Aqueduct has developed a proposal for screening the new equipment from public view with landscape elements.

PROJECT DESCRIPTION

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.



Images from Google Earth looking north and east from Fifth Street NW

Site A Window Louvers: Another renovation to the building is an interior addition of a chemical storage room on the south west side of open interior space. These chemicals are used to treat and clean the water entering the reservoir. To comply with building code requirements the room being created will need to have new intake and exhaust louvers. To accomplish proper ventilation, the Washington Aqueduct division proposes to add louvers into two windows on the south west corner to match the existing louvers in three other windows located on this building. The existing louvers are located behind the stone tracery at the top arched portion of the window, and the new windows will follow suite in color and form. The glass portion of the windows, to be removed and replaced with a louver, will be salvaged and stored by Washington Aqueduct. Details of the portions of the windows to be removed and replaced are included in this document.

Several options for locating the chemical storage room in other portions inside the building were explored and this southwest location requires the least amount of demolition of existing components. Also, this location provides the closest access for filling of chemical tanks at the one entry door to the Pump Station.

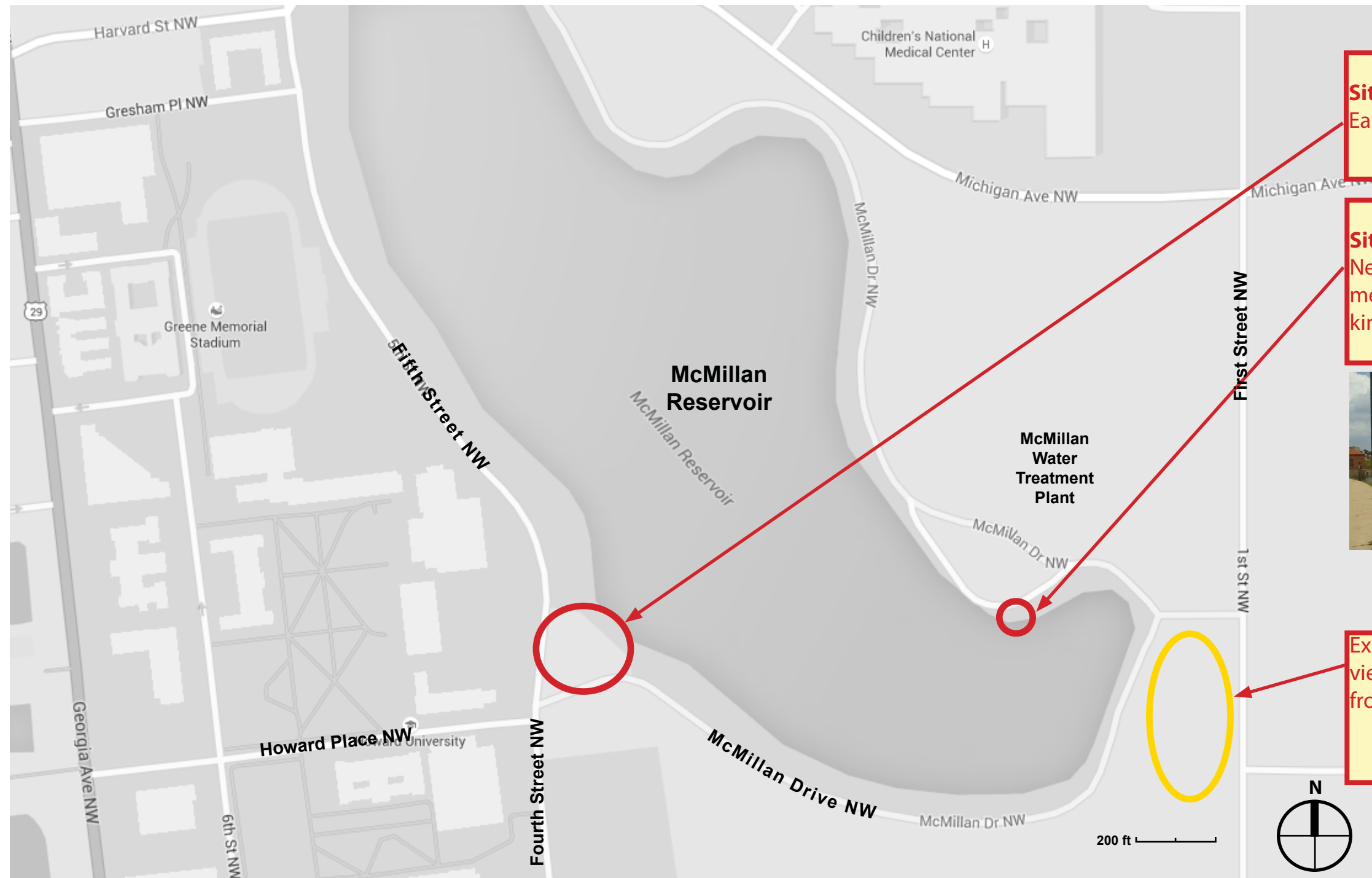
Site A Entry Doors: The existing pair of doors will be replaced because the hardware on the existing ones has degraded over time and the hardware replacement requires a door replacement. The design of the new doors will follow the original door design done about 1901 by Macomb & Calvert, Architects.

Site B Intake Structure: Site B includes the remodeling of a structure that houses screens for the water passing into the Water Treatment Plant just north of the Intake Structure. The existing equipment is old and needs to be replaced. The new equipment will be the same color and approximate size as the existing. Some of the failing concrete foundations will be replaced and repaired. This site is hardly visible from its closest public way, First Street NW. There is a slight view to the structure from the treatment plant entrance at First Street NW if you crane your neck and work to see a blip on the water edge. There are large berms west of First Street NW that block view to this Intake Structure. The design team anticipates no visual impact to the public from this renovation.

PROJECT DESCRIPTION

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.



Vicinity map of McMillan Reservoir from Google Maps

Site A:
East Shaft Pumping Station

Site B:
New Intake Structure equipment to replace existing in kind and color



Existing land berms block view to the Intake Structure from First Street NW

McMILLAN RESERVOIR - PROPOSED REVISIONS

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
McMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

Locations of existing louvers behind stone window tracery shown with a blue dot.

Proposed locations for two new louvers to match existing.

Main Entry. Pair of doors to be replaced "in kind".

Existing trees and large rocks.

Existing fixed and retractable bollards.

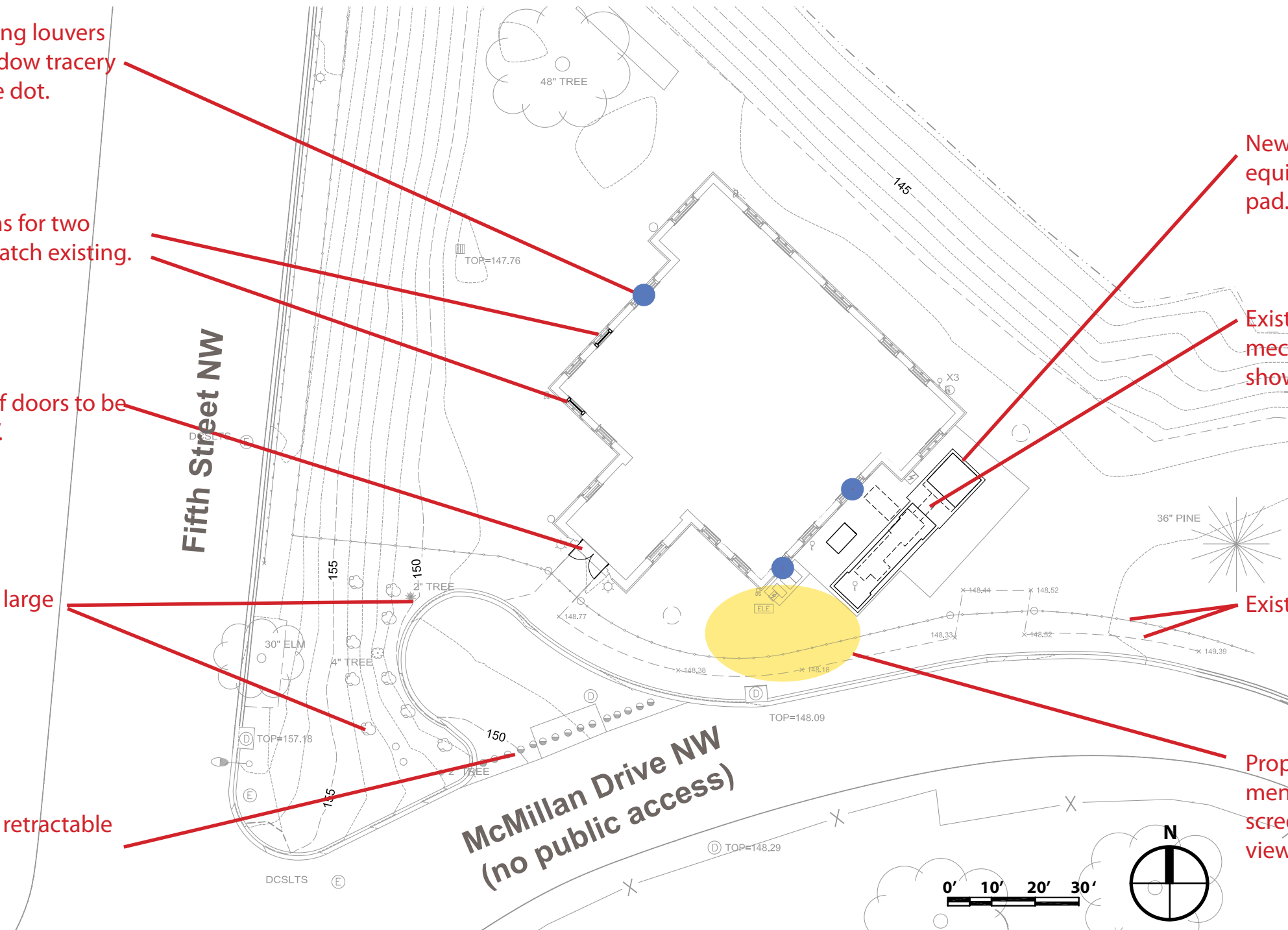
New electrical and mechanical equipment on new concrete pad.

Existing electrical and mechanical equipment shown dashed.

Existing fence and sidewalk.

Proposed location of equipment screening. Intent is to screen equipment from public views from Fifth Street

Plan - existing components shown gray



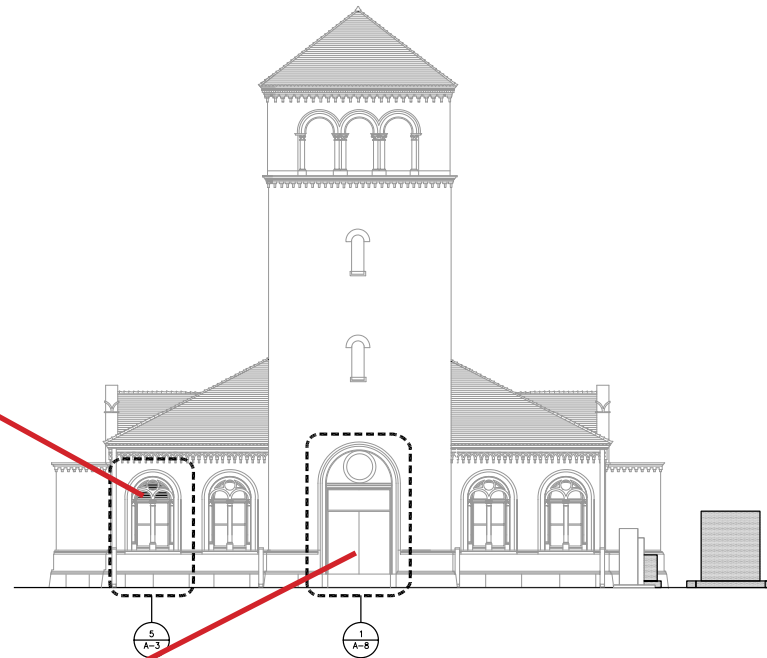
PUMPING STATION SITE PLAN

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

New louver located at top portion of window to match existing

New pair of entry doors to replace existing in kind.



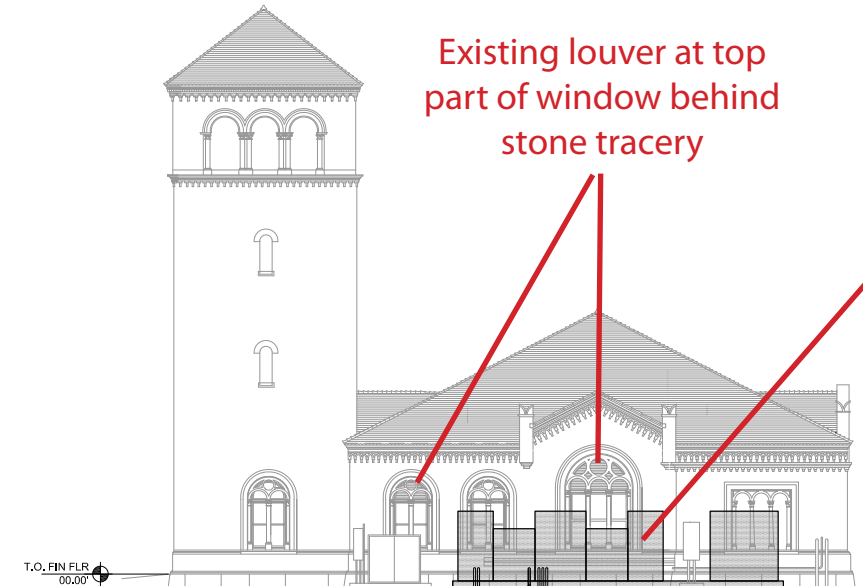
SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



NORTH ELEVATION
SCALE: 1/8" = 1'-0"

Existing louver at top part of window behind stone tracery

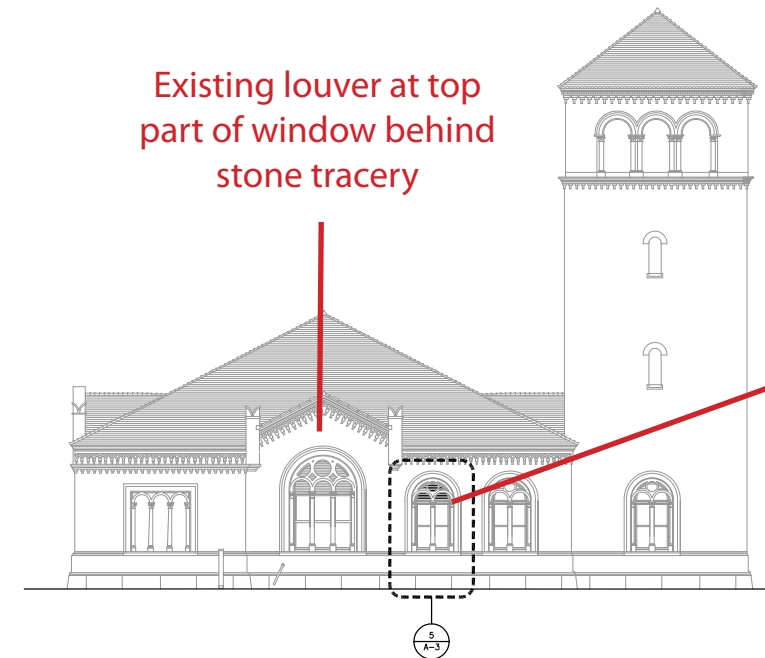
New electrical and mechanical equipment on new concrete pad shown darker than existing building components



EAST ELEVATION
SCALE: 1/8" = 1'-0"

Existing louver at top part of window behind stone tracery

New louver located at top portion of window to match existing



WEST ELEVATION
SCALE: 1/8" = 1'-0"

PUMPING STATION ELEVATIONS

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.



Looking south



Looking southeast



Looking west



Looking northwest

PUMPING STATION PHOTOS - SUMMER

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

October 30, 2015



Looking southeast from the Fifth Street NW sidewalk



Looking east



Looking southeast



Large window on northwest side with existing louver behind stone tracery



Small window on northwest side

PUMPING STATION PHOTOS - WINTER

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

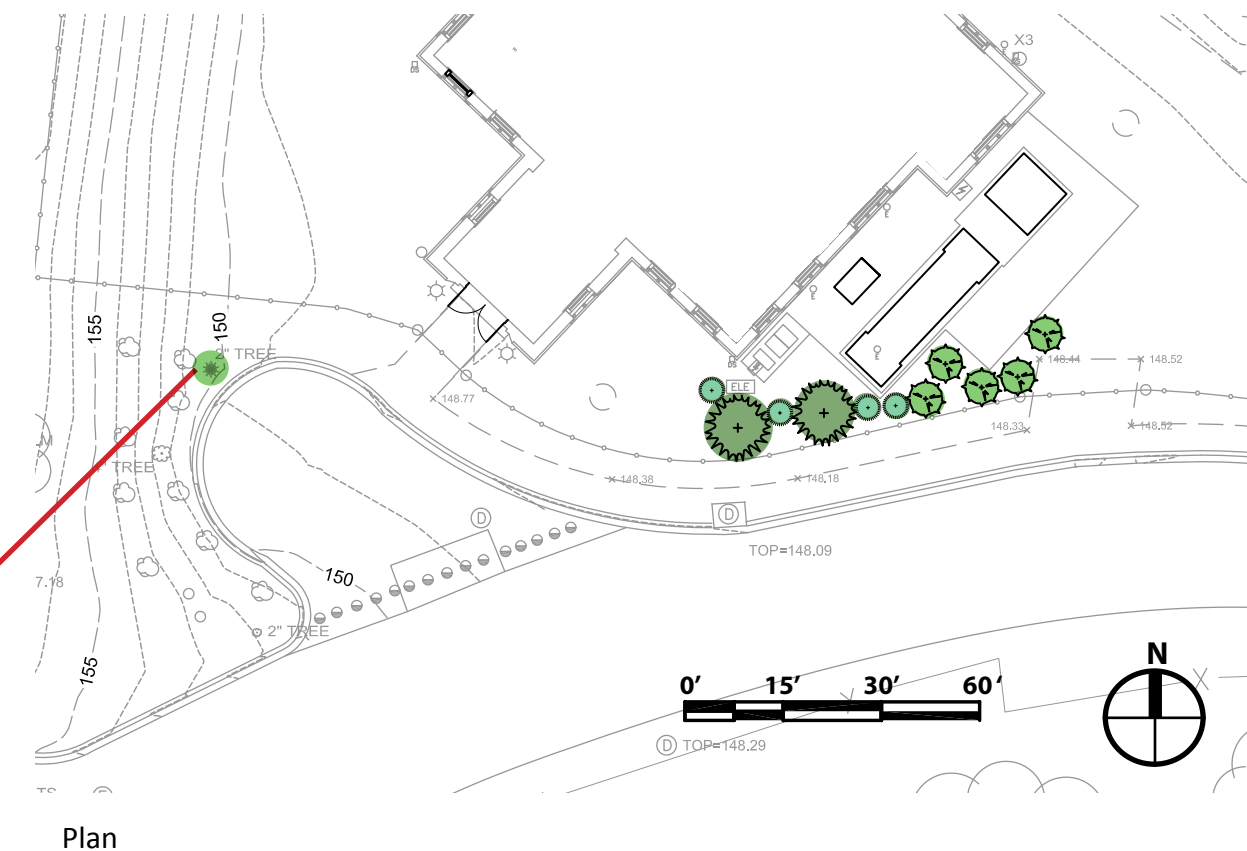


Existing evergreen to the west of the Pumping Station believed to be a *Pinus parviflora* Blue Angel White Pine

Looking northeast from Fifth Street sidewalk

New living screen of plants.

- Proposing evergreen species to coordinate with newly planted evergreen to the west. Little or no pruning maintenance planned.
- Spacing is random and is meant to integrate with existing landscape
- The landscape has been designed to fit between existing below grade utilities.
- The plant material is specified to be of a size range that will create an immediate screening impact. Transplant shock slows growth significantly for 1-3 growing seasons. However, the expected visual impact is expected to be achieved in 3-5 years.






PUMPING STATION EQUIPMENT SCREENING

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.



KEY	SYM.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	TYPE	REMARKS
EVERGREEN TREES								
IA			<i>Ilex x attenuata</i> 'FOSTERI'	FOSTERS HOLLY	8-10' HT.	AS INDICATED	B & B	FULL TO GROUND, MATCHED
JV			<i>Juniperus virginiana</i> 'CORCOCOR' EMERALD SENTINEL	EMERALD SENTINEL EASTERN REDCEDAR	12' HT.	AS INDICATED	B & B	FULL TO GROUND, MATCHED
SHRUBS								
PM			<i>Pinus mugo</i>	Mugo pine	4' HT. x 4' SPR.	AS INDICATED	B & B	



EMERALD SENTINEL EASTERN REDCEDAR



FOSTERS HOLLY



MUGO PINE

PUMPING STATION ADDED LANDSCAPE PLANTING PLAN

EAST SHAFT PUMPING STATION REHABILITATION
WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

October 30, 2015



Existing view looking east



Proposed view looking east with new louvers added



Existing view looking southeast

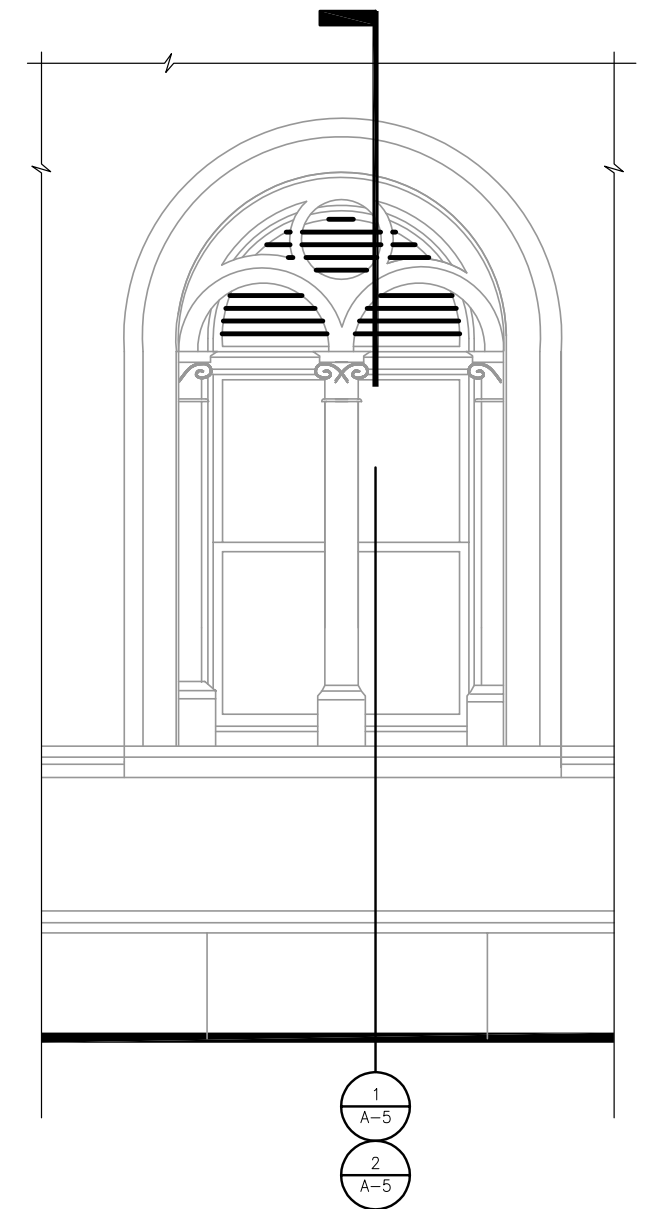
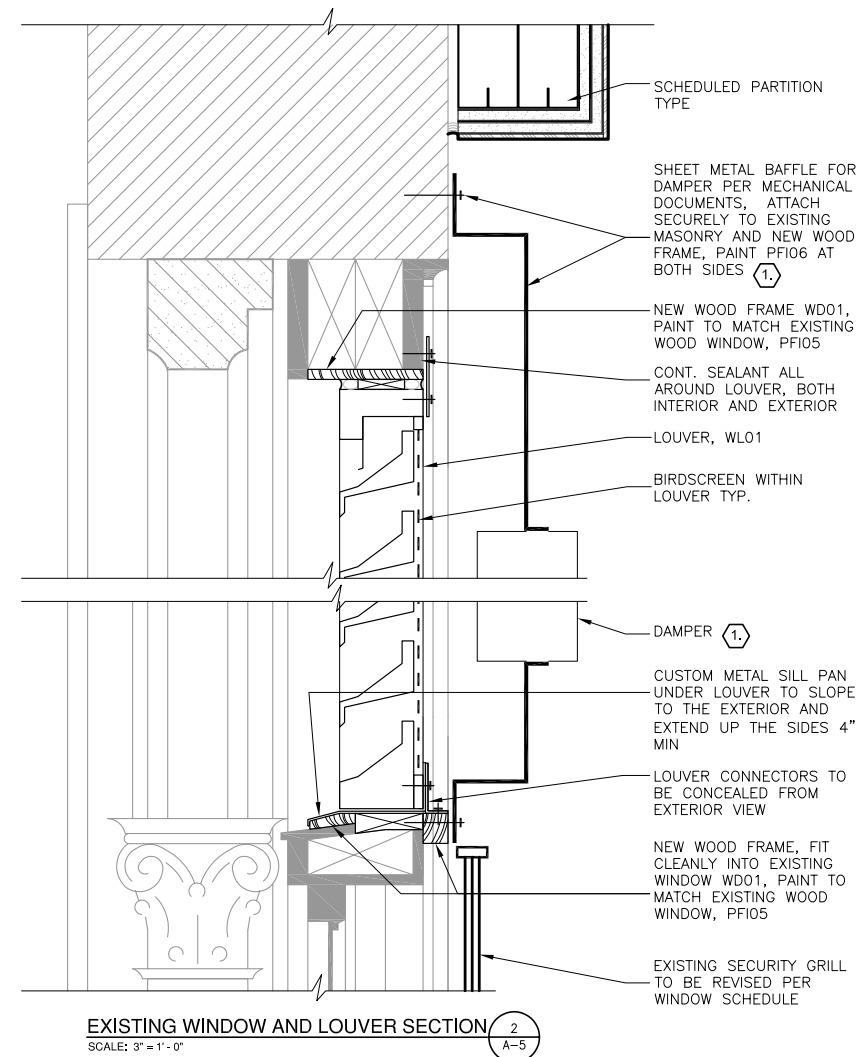
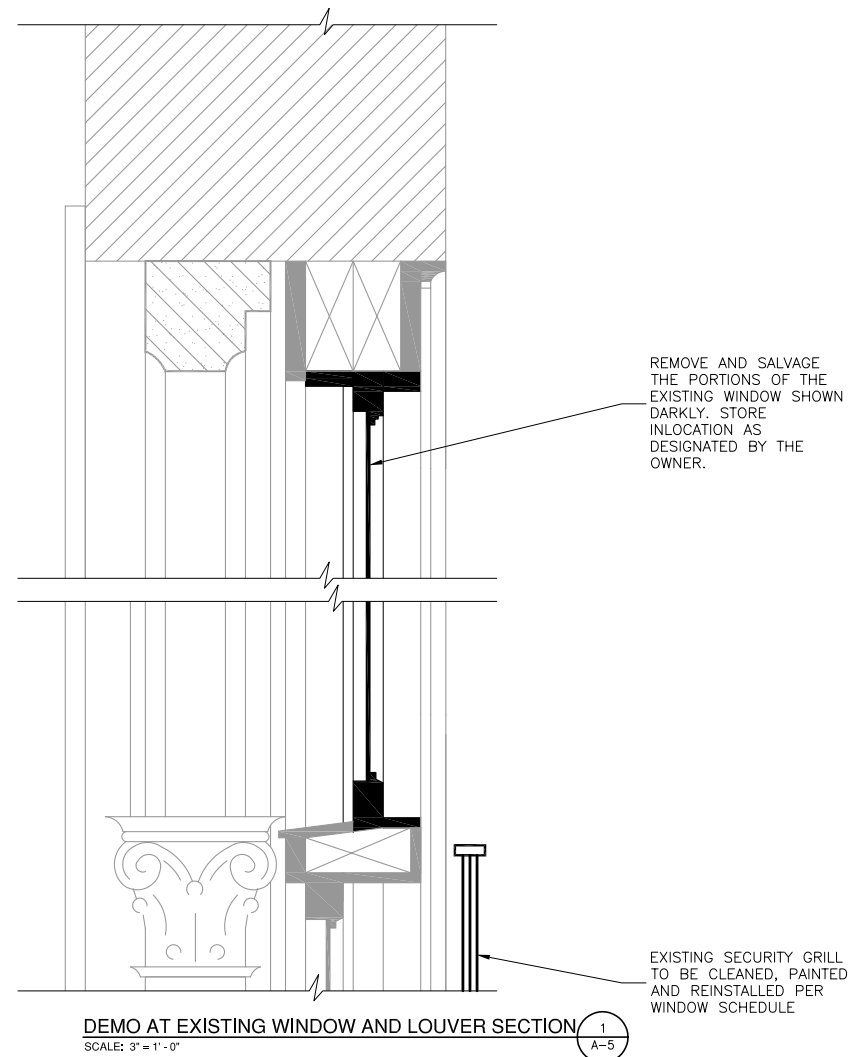


Proposed view looking southeast with new louvers added

PUMPING STATION NEW WINDOW LOUVERS VISUAL IMPACT

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.



ENLARGED WINDOW ELEVATION
SCALE: 1/2" = 1' - 0"

5
A-3

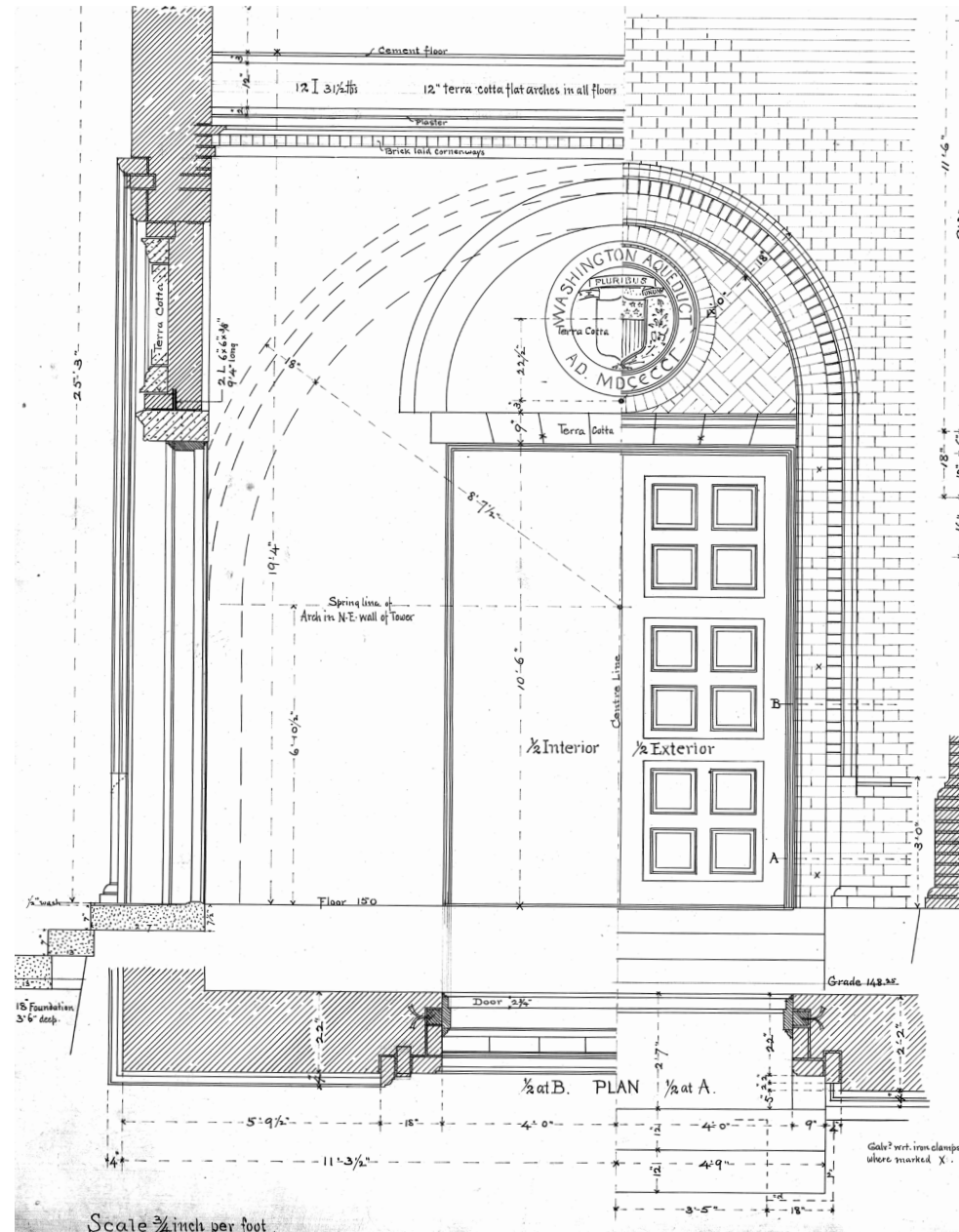
PUMPING STATION WINDOW LOUVER ELEVATION AND DETAILS

EAST SHAFT PUMPING STATION REHABILITATION

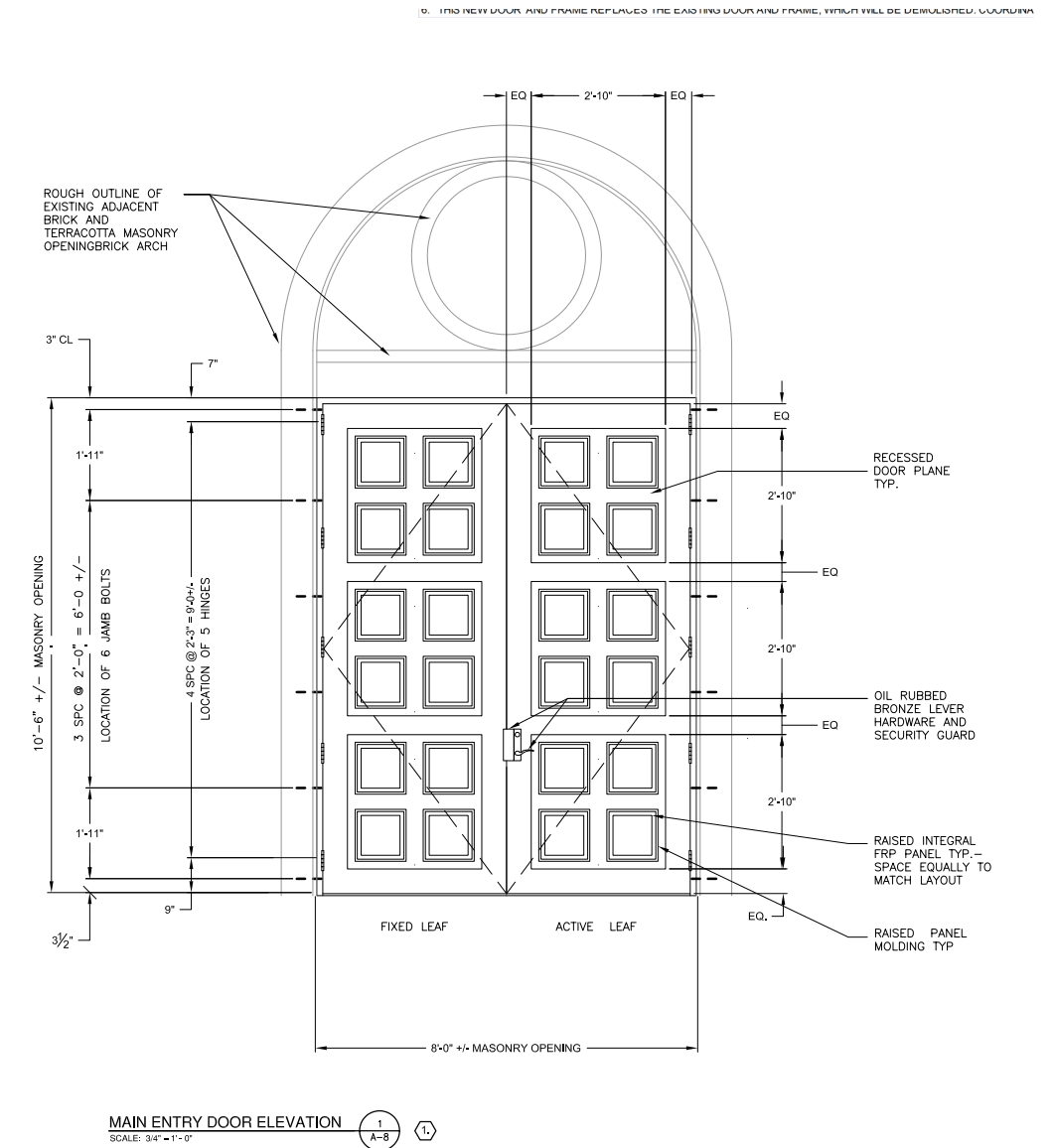
WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.



Existing doors and frames to be removed. These doors are cast Fiberglass Reinforced Plastic. Photo taken March 2015.



Partial Drawing of the pair of Entry Doors drawn by Macomb and Calvert Architects, Philadelphia. Drawing thought to be completed in 1901 judging from the roman numeral date in the seal over the door. Design team assumes these were constructed of wood.



Current drawing of proposed Entry Doors and frame meant to approximate Macomb and Calvert Architect design (seen at left). These are currently designed to be cast from Fiberglass Reinforced Plastic for maximum durability and low maintenance. The DC SHPO has expressed a preference for the door to be constructed of wood if possible. The new door pair will swing out, to meet current life safety egress code requirements, in lieu of the in-swinging doors existing now.

PUMPING STATION ENTRY DOOR ELEVATION AND DETAILS

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

October 30, 2015



Images from Google Earth looking north and east from Fifth Street NW

Summary and Recommendations

Site A East Shaft Pumping Station Electrical And Mechanical Equipment Screening: Several options were reviewed before presenting this preferred option, including brick walls and other more formal landscape options. In general, the design team likes this option very much and recommends it because the chosen plants look cohesive with the existing evergreen plant on the west side while permitting a good view to the Pump Station's architectural features.

A substantial screening impact is expected upon installation of the plant material because of the maturity of the plants specified. However, the intended full and integrated screen will require three to five years of acclimation and growth.

Site A Window Louvers: The Design Team finds the louvers to be an enhancement to the building. They provide a structured backdrop that enhances the beautiful stone tracery outlines. The windows retain their transparency at the lower portion, while the upper portion is highlighted by the louver background.

Site A New Entry Doors: this is a necessary upgrade to the existing Pump Station and provides a positive visual impact by reflecting the intent of the original door design by Macomb & Calvert Architects, Philadelphia.

Site B Intake Structure: The Design Team sees no visual impact to the public views at this site.

SUMMARY and RECOMMENDATIONS

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

A P P E N D I C E S

CENAB-WA-EW

July 15, 2015

RECORD OF ENVIRONMENTAL CONSIDERATION

Project Title: East Shaft Pumping Station Rehabilitation, Washington Aqueduct, Washington, D.C.

Background: Washington Aqueduct, a division of the Baltimore District United States Army Corps of Engineers (USACE), treats water drawn from the Potomac River to produce drinking water for Washington, DC and portions of Northern Virginia. Washington Aqueduct is unique in the Department of Defense, and possibly the Nation, in that the Federal Government owns and operates a public utility. Washington Aqueduct has the responsibility to provide safe, reliable, and cost effective drinking water to approximately one million retail customers, through its three wholesale customers, 24 hours a day, seven days a week. Washington Aqueduct is the sole source of potable water supply to most of these one million customers.

Washington Aqueduct maintains and operates the Dalecarlia and the McMillan Water Treatment Plants (WTP). Raw water diverted from the Potomac River flows via gravity to the Dalecarlia Forebay through two conduits that are approximately nine miles long. The water in the Forebay is pumped into the Dalecarlia Reservoir via a Booster Pumping Station. The water from the Dalecarlia Reservoir is distributed to the Dalecarlia Plant and to the Georgetown Reservoir. Settled water from the Georgetown Reservoir travels by gravity to the McMillan Reservoir via the Washington City Tunnel (City Tunnel). The City Tunnel ends at a shaft with a pumping station known as the East Shaft Pumping Station (ESPS). The ESPS is the only point of entry for water to the McMillan WTP which handles and treats about 40% of the Washington Aqueduct's entire production.

The ESPS was known as East Shaft Gatehouse when constructed in 1901. In the 1930s, it was fitted with a booster pump in order to allow more water into the Reservoir when needed. The East Shaft Pump is used to pump partially treated water into the McMillan Reservoir during the period of high demand. Settled water from the McMillan Reservoir is then pumped to the McMillan WTP for treatment via the McMillan Settled Water Pumping Station. The intake structure upstream of the pumping station has three travelling water screens, each installed in an individual channel equipped with stop log guides. However, the screens obstruct the stop log guides and these guides cannot be used while the screens are in place.

The pump in the ESPS suffered a catastrophic failure in 2010 and is currently inoperable. Any work that would take the ESPS out of service for repairs or replacement of the pump must be conducted between November and February when the entire demand can be supplied by the Dalecarlia WTP via the Crosstown Main to supply low service area directly through the Bryant Street Pumping Station.

With respect to the McMillan WTP, the current minimum flow rate of the plant is 60 million gallons per day (MGD). Washington Aqueduct desires to be able to lower this minimum rate

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to approximately 30 MGD to reduce filtration rates during times when filtration is challenging, but is prevented from doing so since this would require the pumps to operate to their region of hydraulic instability. Therefore, a control scheme is desired to allow lowering of the minimum filter flows.

As a result of these conditions, Washington Aqueduct contracted with Black & Veatch, an A-E firm, to perform a study to determine recommended corrective actions and prepare design documents. After a thorough evaluation, Black & Veatch prepared an "East Shaft Pumping Station Rehabilitation Study and Basis of Design Report" and provided recommendations. Preferred alternatives are currently under design and will be implemented thru a construction contract.

The purpose of this document is to anticipate and analyze potential environmental impacts due to proposed construction activities at the ESPS.

Location of Work: The East Shaft Pumping Station is located at the intersection of 5th Street and McMillan Drive, NW Washington DC 20001 and the McMillan WTP is located at 2500 First Street, NW, Washington, DC.

Scope of Work: The East Shaft Pumping Station Rehabilitation project consists of electrical, mechanical and hydraulic upgrades to the East Shaft Pump and the McMillan WTP travelling water screens to improve their function and reliability. The scope of work is summarized below:

- Pump Replacement: Replacement of the existing East Shaft Pump and associated ancillary equipment (e.g., variable frequency drives, DC battery bank, etc);
- Chemical Feed System: Installation of a permanent chemical feed system for sodium permanganate and provision for future installation of a sodium hypochlorite feed system in the ESPS;
- Electrical Substation: Replacement of the outdoor substation consisting of a 13.8 KV switchgear and two 1000 KVA transformers;
- McMillan Intake Structure: Replacement of the three (3) traveling water screens, four (4) cast iron sluice gates and all ancillary piping, operating and control systems and new stop logs for future screen isolations and repair of deteriorated concrete areas and painting of all ferrous surfaces;

A report (Reference 1), "East Shaft Pumping Station Rehabilitation Study and Basis of Design Report", prepared by Black & Veatch, includes a detailed summary and proposed recommendations to improve the current operational limitations at McMillan WTP.

Relevant project drawings are provided as Attachment 1, which consist of sheet G-1, showing the vicinity and location map for the ESPS site; sheet C-1, showing the ESPS site plan, grading plan, details and general notes; sheet A-2, showing the ESPS floor plan, and sheet A-3, showing exterior elevations for the ESPS.

Schedule for Proposed Action: Construction is expected start in December 2015 and complete by end of 2016.

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APPENDICES

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

Reasons for Using Record of Environmental Consideration (REC):

1. The ESPS discharges water from the City Tunnel into the McMillan Reservoir. As a result of catastrophic failure in 2010, the East Shaft Pump is currently inoperable requiring replacement. The ESPS Rehabilitation project is a major undertaking and a federal action requiring compliance with the National Environmental Policy Act (NEPA). In accordance with 40 CFR §1508.4, a federal agency may categorically exclude an action from detailed review if such action does not individually or cumulatively have a significant effect on the environment and such action meets the Agency's criteria for issuing categorical exclusions.

The ESPS Rehabilitation project activities qualify under categorical exclusion described in the codified U.S. Army Corps of Engineers regulation 33 CFR § 230.9(b), which states "Activities at completed Corps projects which carry out the authorized project purposes. Examples include routine operation and maintenance actions, general administration, equipment purchases, custodial actions, erosion control, painting, repair, rehabilitation, replacement of existing structures and facilities such as buildings, roads, levees, groins and utilities, and installation of new buildings utilities, or roadways in developed areas."

The proposed ESPS project activities, as described in the scope of work, consists of repairs and replacement of existing equipment, for authorized project purposes, and therefore, qualifies for a categorical exclusion under the Corps regulations.

The ESPS is a part of the McMillan Park Reservoir, which is on the National Register of Historic Places. Therefore, Black & Veatch, on behalf of Washington Aqueduct, has been in contact with appropriate regulatory agencies (e.g., District of Columbia State Historic Preservation Office (DC SHPO), Commission of Fine Arts (CFA), National Capital Planning Commission (NCPC)) to comply with review process mandated by Section 106 of the National Historic Preservation Act (NHPA) of 1966 for any alteration or modification to historic properties. During the initial conversation with Mr. Andrew Lewis of DC SHPO, he mentioned that the proposed ESPS building alteration work is acceptable as shown in the design documents. Mr. Lewis stated that according to NCPC regulations his agency does allow an environmental impact "Categorical Exclusion" for such modifications, repair and replacement of electrical and exterior components, and believed that under provision of NEPA regulations, it would give this project a "no adverse effect" status. A copy of recent emails to and from these regulatory agencies (i.e., DC SHPO, CFA, and NCPC), showing the status of progress on their review, is provided in Attachment 3.

This REC is being prepared to document the key issues considered with this planned action.

2. The following environmental resource issues were considered;

- a. **Land Use:** The ESPS site is surrounded by 8' chain link fence. The scope of work describes the proposed construction activities for the ESPS Rehabilitation project. Majority of the work is inside the building except the replacement of equipment at the electrical substation and replacement of equipment and repair of deteriorated concrete at the McMillan Intake Structure. The activities with a potential to impact "land use", are

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discussed further. The proposed activities for replacement of the electrical and mechanical equipment at the electrical substation do not require any excavation as the existing pads will be used and the housekeeping pads will be placed on the existing pad. A project design drawing sheet (C-1, site plan, grading plan, details and general note) showing erosion and sediment control details, including the limits of proposed construction and construction entrance, is provided in Attachment 1. Another drawing sheet (A-2, floor plan) showing ESPS interior areas, including electrical and mechanical equipment, is also provided in Attachment 1.

Currently, the ESPS is served by an existing electrical substation located east of the facility, just outside the building. Power to the substation comes from two 13.8 kV feeders, which emanate from the Annex #1 substation. The general location and physical dimensions of the new substation will be similar to the existing substation. Because of installation of the new transformer replacing the existing, the new substation design criteria included number of applicable codes and standards (e.g. NFPA 70, UFC 3-600-01, Factory Mutual Standard 3990, United States Environmental Protection Agency (US EPA) Spill Prevention, Control and Countermeasure Plan, etc.) with regard to acceptable/required minimum separation distance between a liquid-filled transformer and a building and/or other equipment. The substation may be slightly larger than the existing, but as recommended by the DC SHPO, the primary review and approval agency for historic properties, the associated aesthetic impact will be mitigated with a screen wall. A concept presentation was provided to NCPC by Black & Veatch on May 28, 2015. A similar presentation was also provided to CFA on May 28, 2015. A copy of the presentation provided to NCPC is provided as Attachment 2. Black & Veatch is currently in process of preparing the screening options, which includes planting screens and masonry screen options, for review by DC SHPO.

The new substation will utilize two 1000kVA, 13.8kV-480V transformers. This is unlike the existing electrical arrangement in which one transformer serves the pump, while the other transformer serves all other building loads. This provides a level of redundancy and reliability currently not provided at the ESPS.

Considering that the ESPS footprint (area) essentially remains the same, increase in runoff from the site during and after the construction phase of the project will be minimal, if any, and will be mitigated by erosion and sediment control measures (e.g., silt fence, inlet protection, construction entrances, etc.) during the construction phase of the project.

Therefore, the land impacts from the proposed activities described above will be minor, temporary, and short-term with no long-term adverse impacts.

- b. **Cultural Resources:** The McMillan Reservoir was added to the National Park Service's National Register of Historic Places in 2013 (Reference 2). Therefore, historic review process mandated by Section 106 of the National Historic Preservation Act (NHPA) of 1966 is required for any alteration or modification to such historic properties. Black & Veatch, on behalf of Washington Aqueduct, have contacted the appropriate regulatory agencies (i.e., DC SHPO, CFA, and NCPC) for review and

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EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

approval of modifications as a part of the ESPS Rehabilitation project. During the preliminary meeting with and presentation to the CFA and the NCPC in May 2015, both agencies agreed with DC SHPO that the proposed changes, the louvers and new electrical equipment are acceptable as shown. The DC SHPO has requested that some screening be included in the design to block the majority of the substation from public view. A complete package with design documents will be provided to DC SHPO for their review and approval. Email correspondence from CFA and NCPC and meeting notes summarizing the discussion with DC SHPO are provided in Attachment 3. The Black & Veatch is currently in the process of preparing the screening options, which include planting screens and masonry screen options. The submittal of revised documents to DC SHPO, CFA and NCPC will be done by email and discussed via telephone conference. The building is constructed of Flemish bond red brick with brownstone details (Reference 3). The design of the masonry screen options must be sensitive to the Northern Italian Romanesque architectural design elements in the façade (Reference 1). A copy of project drawing sheet A-3, showing exterior elevations for the ESPS is provided in Attachment 1. A copy of recent emails to and from these regulatory agencies (i.e., DC SHPO, CFA, and NCPC), showing the status of progress on their approval, is provided in Attachment 3.

Based on preliminary discussions with the DC SHPO, CFA and NCPC, Washington Aqueduct plans to follow these agency's review procedures and guidelines and also plans to incorporate all of their preliminary comments and recommendation and then submit all appropriate design drawings and plans. Therefore, Washington Aqueduct expects to have regulatory approval from these agencies at the respective conference call meetings in August 2015. Overall, no adverse impacts to cultural resources are expected from the proposed project activities.

- c. **Hazardous and Toxic Substances:** Currently, Sodium Permanganate solution is used for algae control during the months of April thru November but, its use is only as needed and not continuous. The use of Sodium Hypochlorite solution is very rare, to control organics, if needed. Options for a permanent chemical feed system for these chemicals were evaluated and are described in detail in the Reference 1. Based on having the least amount of impacts on the space and function of the existing ESPS, new sodium permanganate feed system, consisting of a 720 gallon Fiberglass Reinforce Plastic (FRP) storage tank and two peristaltic pumps is considered. Similarly, a provision for future installation of a new sodium hypochlorite feed system, consisting of a 700 gallon FRP storage tank and two peristaltic pumps is considered. A tanker truck at the chemical fill station will be used to fill the new storage tank. Overall, the new chemical feed system designed with applicable codes for building, life safety and fire protection, and spill containment, will improve the quality of chemical storage at the ESPS and the use of chemical will remain the same as previous. Therefore, due to proper facility design and additional control and safety features, the impacts from hazardous and toxic substances are expected to be minimal for the proposed chemical storage and feed systems.

The other waste primarily will consists of solid and bulk waste for demolition, the electrical and mechanical equipment from the substation and intake structure, but, it is

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not hazardous waste. Such wastes will be either recycled or disposed of in accordance with the local, state and federal waste disposal regulations.

The contractor is responsible for their equipment and vehicle maintenance and these activities will not be performed on-site, eliminating any potential for hazardous materials entering the storm drain system from such activities. Similarly, equipment and vehicle washing will occur in garages and wash facilities located off-site with the exception of washing down truck tires to minimize sediment tracking off-site. Wheel and vehicle wash activities will be achieved by high pressure water jet only and will not require the use of soaps, detergents, or solvents. Storage of fuel by the contractor on the project site is not allowed.

Project specifications requires the construction Contractor to comply with all applicable local (District of Columbia) and federal (e.g., Occupational Safety and Health Administration (OSHA), US EPA) regulations during the project construction activities. Therefore, potential for adverse impacts from hazardous or toxic substances are eliminated and no additional impacts from hazardous and toxic substances are expected from the proposed project activities.

- d. **Threatened and Endangered Species:** Based on previous projects at the McMillan Reservoir, no threatened or endangered species were found or are known to be present as determined by District Department of the Environment (DDOE), Fisheries and Wildlife Division then. Washington Aqueduct is awaiting final response and a letter of concurrence from DDOE, Fisheries and Wildlife Division, that no federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in the ESPS Rehabilitation project site. Therefore, no adverse impacts to endangered and threatened species are expected from the proposed project activities.
- e. **Aquatic Resources and Wetlands:** According to the final environmental baseline report for Washington Aqueduct (Reference 4), there are no jurisdictional wetlands located at McMillan Park Reservoir and therefore, wetland mitigation permit is not required. The proposed ESPS Rehabilitation project activities are conducted near the McMillan Reservoir and therefore, potential to impact aquatic system are evaluated. The ESPS Rehabilitation is not a development project where actions like release of eroded soil, increased runoff, physical destruction of aquatic habitat, increase of quantity of nutrients, toxics or other pollutants, etc. has a potential to cause degradation to the aquatic resources. No such developmental type activities will happen at the site during the construction phase of the project and the quantity of impervious surface for the project area is expected to remain the same. Also, the contractor will implement erosion and sediment control measures to mitigate potential impacts from stormwater run-off to the Reservoir and storm sewer system during the construction phase of the project. Therefore, no adverse impacts to aquatic resources or wetlands are anticipated from the proposed project activities.
- f. **Water Quality:** As described in design drawing sheet C-1, the construction Contractor will implement stormwater management measures (e.g., silt fence, construction entrances, perimeter controls, etc.) to control surface water run-off from the site and will

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APPENDICES

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

ensure to comply with all applicable local, state and federal Soil Erosion and Sediment Control requirements as well. Construction activities will not begin until the perimeter control measures are in place and have been inspected. Construction entrance pad and sediment area will be inspected weekly and after storm events. Sediment being tracked on to public or private roadways will be minimized. Mud and sediment tracked or washed on to public roads will be removed immediately by brushing or sweeping. Site stabilization methods and best management practices (e.g., temporary and permanent seeding, preserving the existing vegetation) will be implemented as described in site plan drawing C-1. As indicated in 2 (c) above, no hazardous or toxic substances will be used for the proposed activities. Therefore, no adverse impacts to groundwater table or surface water are expected from the proposed project activities.

The existing McMillan intake structure at the McMillan Reservoir is aging and is nearly at the end of its service life. The existing stop logs have not been used due to conflicts with the existing travelling screens. Therefore, the replacement of existing travelling water screens, cast iron sluice gates and all ancillary piping, operating and control systems is required. The deteriorated intake structure concrete will also be repaired. Type of material for all components of the new intake structure will be similar to the existing material except the stop logs. Stop logs were made of wood in previous eras but today, we have choice of three common materials; aluminum, FRP and stainless steel. Aluminum stop logs are recommended by the designer for this application, due to their lower cost, low weight and ease of handling, as they can be fabricated to fit into the existing stop logs slots at the intake structure. Considering that the new system will simply replace the existing system, impacts to the water quality, if any, are expected to be minimal, local and short-term with no cumulative impacts due to the proposed project activities.

- g. **Air Quality and Clean Air Act:** Compliance with the US EPA Clean Air Act for attainment of National Ambient Air Quality Standards was evaluated for the proposed ESPS Rehabilitation project. This project is in an area of marginal non-attainment for ozone. The requirements of this act are not applicable as the total direct and indirect emissions from the proposed activities are expected to be well below the “de minimis” thresholds for regulated contaminants established in applicable air quality regulations. The de minimis emission level threshold for PM_{2.5} in the project area is 100 tons per year. If dust becomes a problem on the site, the construction Contractor will implement dust control measures including use of a water truck to irrigate the site as often as needed to control dust in accordance with requirements of District of Columbia Air Quality Standards and project specifications requirements for Soil Erosion and Sediment Control. Considering the nature of construction activity and control measures described in the contract drawings, expected emissions will be minimal, at the most a few pounds, and well below 100 tons per year threshold. Therefore, no adverse impacts to air quality are expected from the proposed project activities.

Some of the existing equipment and associated piping or conduits are old and appear to be painted with lead-based paint (LBP). These equipment and associated piping will be disposed of according to applicable recycling and bulk waste regulations. Disposal of LBP items will reduce the LBP hazard and will result in marginal improvement in the

7 of 10

existing conditions and the air quality at the ESPS.

- h. **Traffic:** The ESPS Rehabilitation project is located at the McMillan WTP, 2500 First Street, NW in Washington D.C. The project site location map, vicinity map, neighboring properties, and surrounding roadways are shown in the drawing sheet G-1, provided in Attachment 1. The project site is in the middle of a heavily travelled traffic corridor used by daily commuters and commercial drivers for commuting to downtown Washington, D.C. Even though the hours of operation for this project are from 7 a.m. to 5 p.m. during weekdays, the construction activities are expected to be over by 3 pm, well before the start of evening rush hours. The only construction activities with a potential to impact the traffic near the project site include the delivery of electrical and mechanical equipment by trucks and the use of personal cars by project staff. However, based on the size and quantity of new equipment to be delivered, it will increase the traffic by only 1 to 2 trucks for only up to 5 days. Similarly, based on the project size, personal cars will increase the traffic by only few numbers of cars for the duration of the project. Thus, the expected traffic impacts from the proposed construction activities will be negligible and short-term with no long-term impacts on the surrounding area traffic either separately or cumulatively. Therefore, there are no significant adverse impacts on traffic from the proposed project activities.
- i. **Noise:** The ESPS Rehabilitation project site, located in the Northwest part of the Washington D.C., is surrounded by institutional properties. The proposed construction activities will be limited between the hours of 7 a.m. to 5 p.m. during the weekdays. The construction Contractor will comply with applicable local noise ordinance to control noise during construction activities. Potential noise generated during proposed construction activities will be mainly during the delivery and installation of equipment (e.g., pump, variable frequency drive, intake screens, two transformers, etc.). Per requirements of USACE’s Safety and Health Requirements Manual (EM 385-1-1), the construction Contractor shall implement engineering or administrative controls (e.g., use of quieter equipment, erecting barriers, proper maintenance of equipment, etc.), if warranted, to minimize noise levels during the construction. Considering the type of equipment to be installed, as described above, noise generated during the installation of these equipment is expected to be intermittent and of low level. The nearest surrounding properties are at least 200 feet away from the construction activities. People in the surrounding properties will be inside the building and thus, will be shielded from low noise generated during construction activities. Therefore, noise impact to the people in the surrounding properties from the proposed construction activities is expected to be minimal, intermittent, and short-term with no long-term impacts on the quality of life for people in the surrounding area.
- j. **Environmental Justice:** The ESPS Rehabilitation project site is located in a fully developed area. Project site is bounded to the east and north by the McMillan Reservoir and to the west and south by Howard University Administrative Office buildings and halls with some residential area located further south and west of the ESPS site. No minorities or low-income populations are affected by the proposed project. Therefore, no adverse impacts to minority or disadvantaged businesses are expected from the proposed project activities.

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k. **Public Health and Safety:** The scope of the proposed project activities does not require use of any hazardous or toxic chemicals, however, the construction Contractor will conduct activity hazard analysis before performing construction activities and employees will use appropriate personnel protective equipment (PPE) for the duration of the project. The construction Contractor employees and visitors will comply with applicable requirements of OSHA as well as health and safety requirements outlined in the "Safety and Health Requirements Manual" (EM 385-1-1) of the U.S. Army Corps of Engineers. Washington Aqueduct will ensure that appropriate safety controls are in place and safe work practices are strictly adhered to for the entire duration of the project. Therefore, the proposed construction activity will not pose any concern to the public health and safety.

3. Based upon a review of the proposed action and resource issues described above, it has been determined that the proposed action will present no significant adverse environmental impacts to the project area.

References:

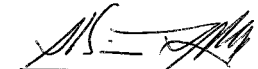
1. "East Shaft Pumping Station Rehabilitation Study and Basis of Design Report", Prepared by Black & Veatch, March 2015.
2. "McMillan Park Reservoir Historic District, U.S. Department of Interior, National Park Service, February 2013.
3. "Washington Aqueduct Cultural Resource Management Plan", Prepared by R. Christopher Woodwin & Associates, Inc., June 1998.
4. "Final Environmental Baseline Report for the Dalecarlia, Georgetown, and McMillan Reservoirs", prepared by U.S. Army Corps of Engineers, Baltimore District, May 1994.

Attachments:

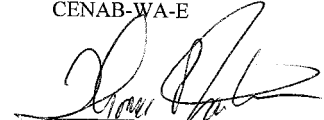
1. East Shaft Pumping Station Project Drawing Sheets, Sheet G-1, C-1, C-2, A-2 and A-3, dated March 2015.
2. Concept Presentation for District of Columbia National Capital Planning Commission, East Shaft Pumping Station, Washington Aqueduct, Black & Veatch, May 28, 2015.
3. Copies of Emails -- Emails to and from regulatory agencies (i.e., CFA, NCPC and DC SHPO) describing the status of regulatory approval.

9 of 10


Prepared by:


Shabir A Choudhary
CENAB-WA-E

Reviewed by:


Thomas P. Jacobus
CENAB-WA

Approved by:


Edward P. Chamberlayne, P.E.
Colonel, U.S. Army
Commander and District Engineer

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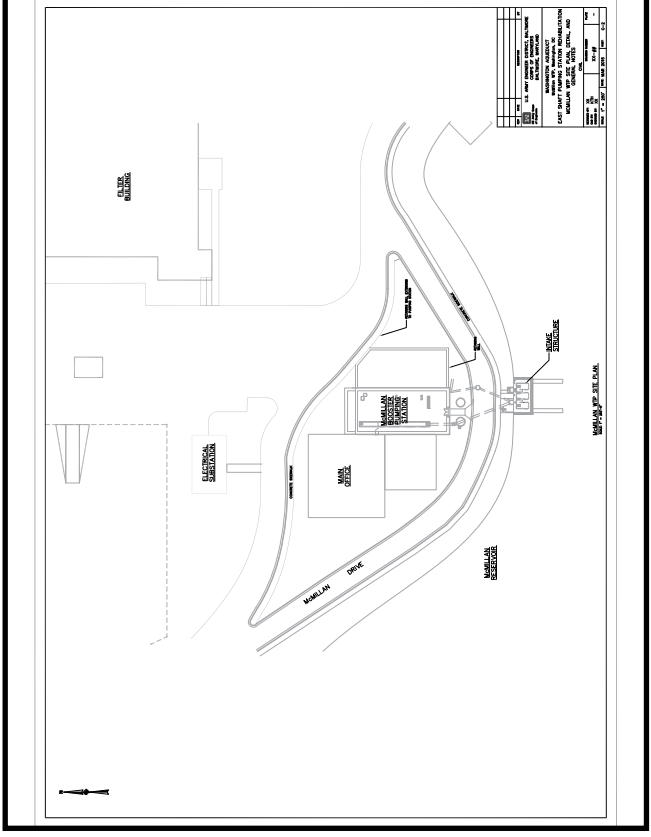
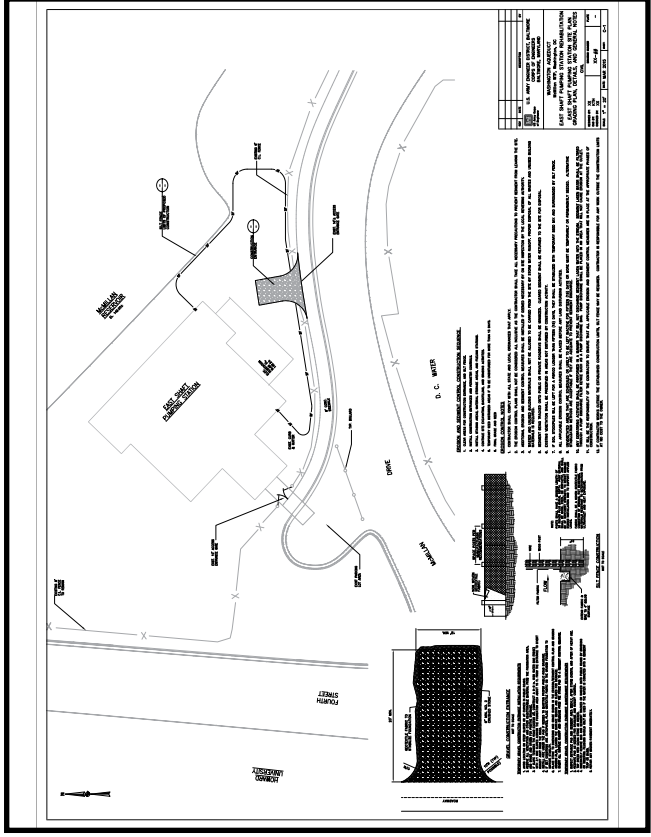
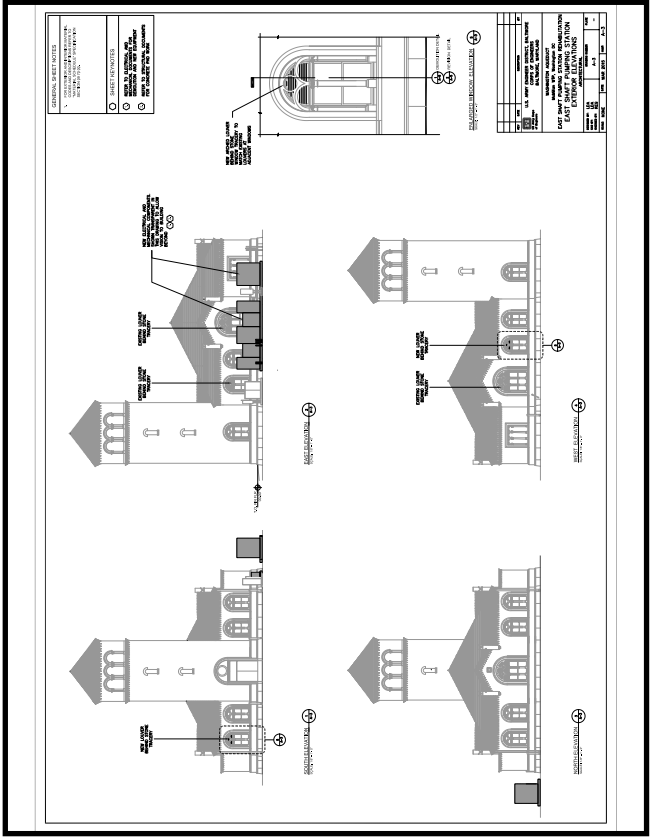
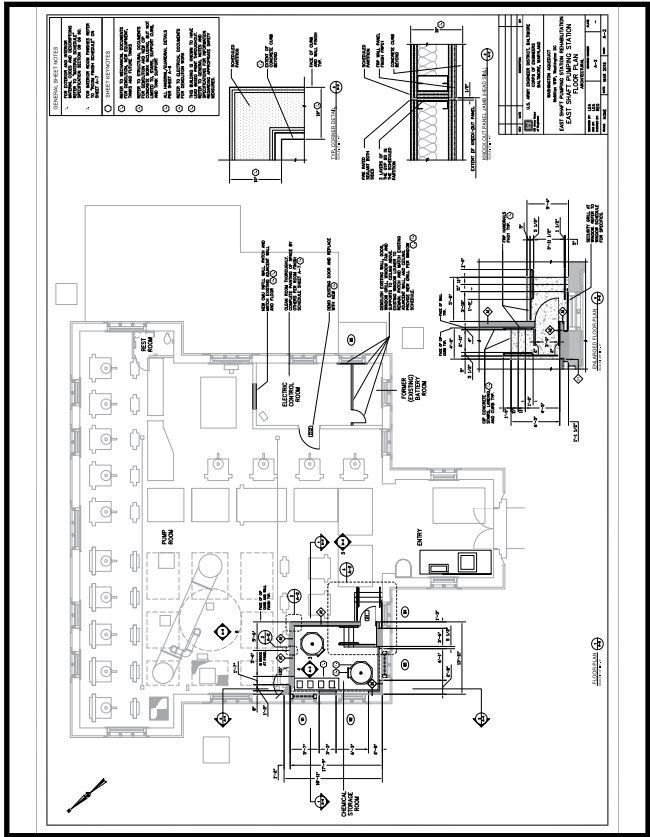
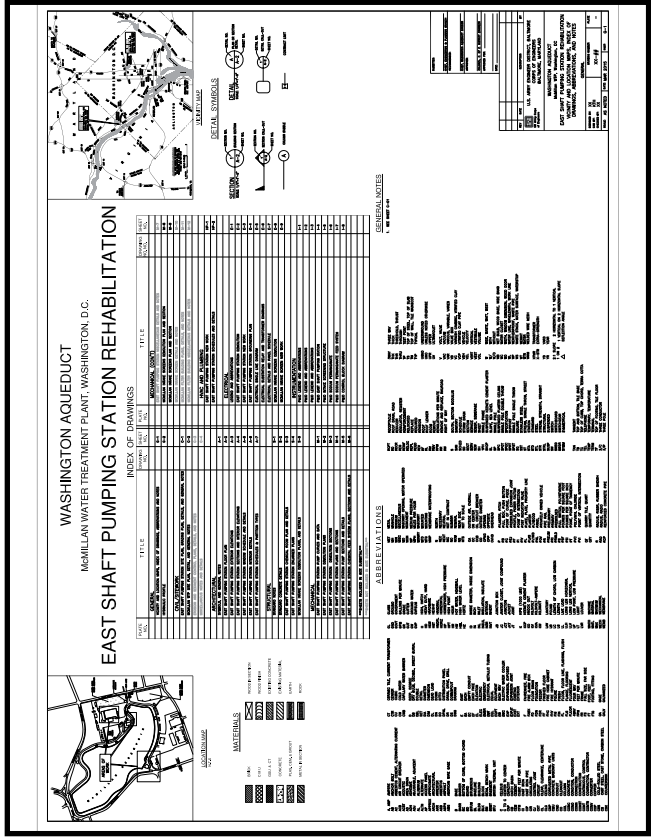
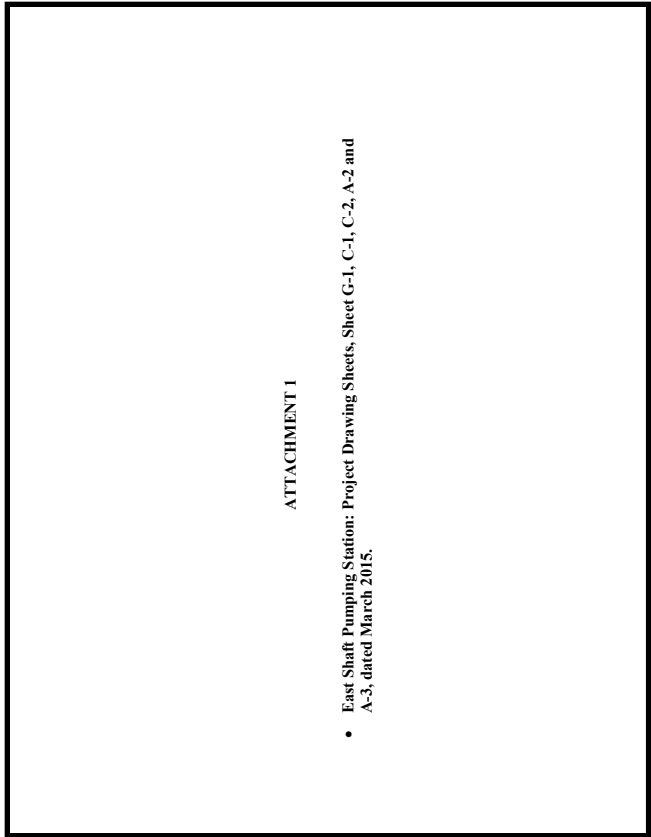
APPENDICES

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT
MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

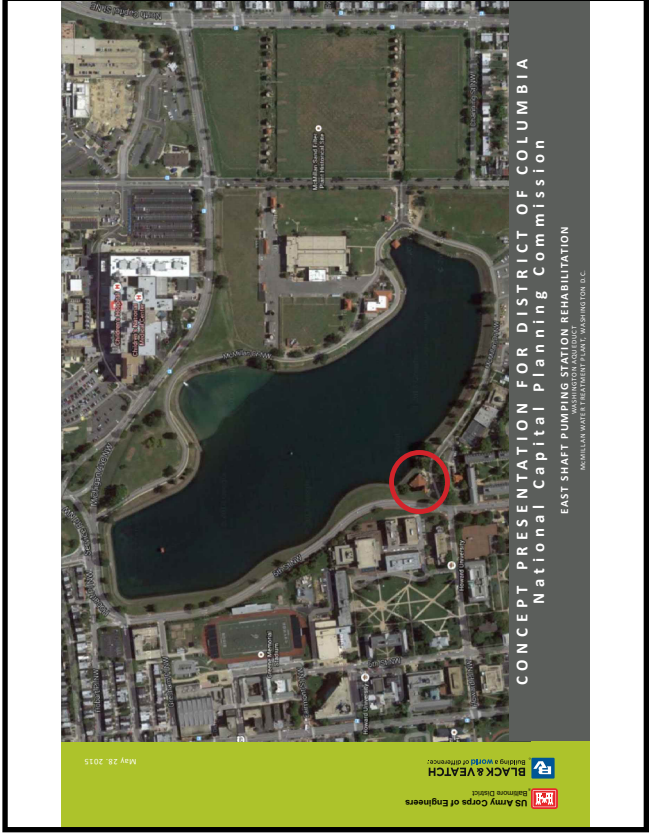
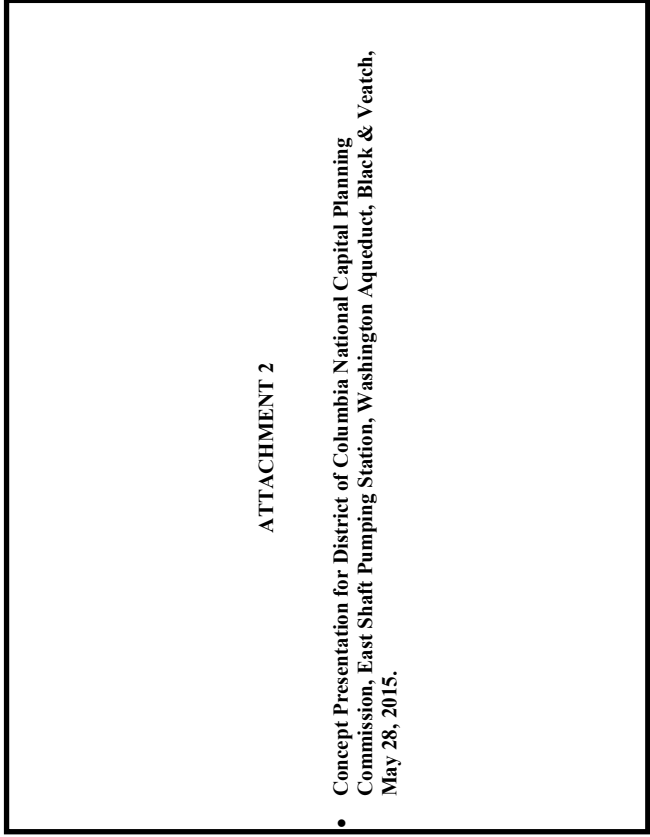
ATTACHMENT 1

- East Shaft Pumping Station: Project Drawing Sheets, Sheet C-1, C-2, A-2 and A-3, dated March 2015.



ATTACHMENT 2

- Concept Presentation for District of Columbia National Capital Planning Commission, East Shaft Pumping Station, Washington Aqueduct, Black & Veatch, May 28, 2015.



October 30, 2015

APPENDICES

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT

McMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

[illegible]

Site A:
East Shaft Pumping Station

Site B:
New intake Structure equipment building on NW side and cobor

Existing land behind Block 100 to be returned to the city from First Street NW

McMillan Reservoir

First Street NW

15th Street NW

17th Street NW

19th Street NW

21st Street NW

University of Washington

McMillan Reservoir

Aerial view of McMillan Reservoir from Google Earth

MCMILLAN RESERVOIR - PROPOSED REVISIONS

EAST SHAFT PUMPING STATION REHABILITATION

MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

4

[illegible]

Site A: Wetland Assessment. Another examination of the building was a wetland assessment. There are many wetlands in the area with building code requirements for surrounding covered walkways and parking lots. The building is located in a wetland area and the assessment was required. The building is located in a wetland area and the assessment was required. The building is located in a wetland area and the assessment was required.

Site B: Entry door. The replaced the old building entrance with a new entrance.

The new entrance is a two-story building with a new entrance. The new entrance is a two-story building with a new entrance. The new entrance is a two-story building with a new entrance. The new entrance is a two-story building with a new entrance.

Recommendation. Please refer to the last page of this document for a summary and the Design 3D or recommendation.

Images from Google Earth looking north and east from Fifth Street NW

PROJECT DESCRIPTION

EAST SHAFT PUMPING STATION REHABILITATION

MIDDLEBURY COLLEGE, VERMONT

May 28, 2015

US Army Corps of Engineers
BLANK & VEATCH
Engineering & Construction

3

May 28, 2015

BLANK & VEATCH
ENGINEERING ARCHITECTS

US Army Corps of Engineers

Building a world of difference.

Plan - existing components shown gray

East Shaft Pumping Station Rehabilitation

McKelvie Drive NW
Fifth Street NW
Public Access Point

Existing food and fireable boards.

Existing trees and large rocks.

Main Entry: Only one cross door exits into this building.

Proposed location for two new towers with a new tower.

Locations of existing towers behind store window tracery shown with a blue dot.

Existing electrical and mechanical equipment stand-alone.

New electrical and mechanical equipment on new concrete pad.

Proposed fence and sidewalk.

Proposed fence of equipment room screening.

North Arrow

EAST SHAFT PUMPING STATION SITE PLAN

NOVA LUM WATER TREATMENT PLANT, WASHINGTON D.C.

5

May 28, 2015


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 US Army Corps of Engineers
 Building a better life together

EAST SHAFT PUMPING STATION PHOTOS - SUMMER

EAST SHAFT PUMPING STATION REHABILITATION

WASHOIAH AVENUE AT THE AVENUE PLAZA, WASHINGTON, D.C.

7

New living screen of plants.

- Proven variety that grows into a thin cone shape naturally with no pruning or maintenance needed. Baccata - Italian from the 19th century
- Since the building is Italian from an earlier style - suggest Italian Red Cedar - Italian from the 19th century
- Similar plant varieties are found in the northern Italy region
- Green Italian Red Cedar

Plan

Looking northwest from Fifth Street sidewalk.

OPTION 1 - EQUIPMENT SCREENING
EAST SHAFT PUMPING STATION REHABILITATION
 REMULLEN WATER TREATMENT PLANT, WASHINGTON D.C.

9

APPENDICES

EAST SHAFT PUMPING STATION REHABILITATION

WASHINGTON AQUEDUCT

McMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.

May 28 2015

BLACK & VEATCH
Engineering

US Army Corps of Engineers

Looking northwest from Fifth Street - sidewalk

Existing easement to the west of Pumping Station.

Plan

10

OPTION 2 - EQUIPMENT SCREENING
EAST SHAFT PUMPING STATION REHABILITATION
MUSKOGEE WATER TREATMENT PLANT, WASHINGTON D.C.

New living screen of plants.

- Propose growing evergreen species to establish a living screen. Plants are planned to the west. Little or no pruning maintenance planned.
- Propose a living screen and does not follow a given path.
- Suggest dwarf spruce or fir variety.
- Propose a Redwood Short-Spruce Dwarf Cedar.

PROPOSED WINDOW LOUVER ELEVATION AND DETAILS

EAST SHAFT PUMPING STATION REHABILITATION

MULLIKAN WATER TREATMENT PLANT, WASHINGTON D.C.

ENLARGED WINDOW ELEVATION

DETAIL 1

DETAIL 2

DETAIL 3

DETAIL 4

DETAIL 5

DETAIL 6

DETAIL 7

DETAIL 8

DETAIL 9

DETAIL 10

DETAIL 11

DETAIL 12

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Map 28. 2015

Images from Google Earth looking north and east from FBR Street NW

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US Army Corps of Engineers

Building a world of difference

100 YEARS OF SERVICE

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ATTACHMENT 3

- Email from Lonia Adams (B&V) to Michael Vantzeldfden (Washington Aqueduct), dated June 12, 2015. Contains (i) Communication with CFA and NCPD and (ii) CFA Submission Requirements for Concept Review of Government Projects
- Email from David Levy NCPD to Lonia Adams (B&V), dated May 28, 2015. Contains update on status of review by NCPD.
- Email from Lonia Adams (B&V) to Michael Vantzeldfden (Washington Aqueduct), dated May 11, 2015. Contains update on status of review by Mr. Andrew Lewis (DC SHPO).

Commission of Fine Arts (CFA)
Submission Requirements for Concept Review of
Government Projects

NOTE: Items in blue represent items that Black and Veatch suspects will not be required for this small rehabilitation project.

A complete concept review submission includes:

- A letter requesting CFA review, signed by the authorized representative of the government agency responsible for the project and on the letterhead of that agency, addressed to the Secretary, U.S. Commission of Fine Arts, 401 F Street, NW, Suite 312, Washington, DC 20001.
- A project booklet (10 copies, 11x17 inch or 8 1/2x11 inch format) for distribution to the members of the Commission in advance of the meeting. The booklet, which should also be provided in digital format (PDF preferred), should describe the project scope, program, and goals and include the following:
 - photographs of the existing site and surrounding area
 - vicinity map of the project area
 - site plans showing existing conditions and proposed work
 - landscape plan with topographic contour lines
 - complete floor plans, elevations, and roof plan showing existing conditions
 - complete floor plans, elevations, and roof plan showing proposed work
 - rendered perspectives and/or three-dimensional massing model drawings, as appropriate
- A digital presentation file or set of presentation boards that includes, but is not limited to, the graphic information provided in the project booklet, for presentation in the Commission of Fine Arts meeting.
- Physical scale models or massing models, as appropriate, especially for complex building forms or sites, for presentation in the Commission of Fine Arts meeting. Photographs of the models should be included in the project booklet.
- Exterior material samples if available.

Tarpara, Jagdish P WAD

From: Adams, Lonia [AdamsL2@bv.com]
Sent: Tuesday, June 02, 2015 5:41 PM
To: Vantzeldfden, Michael W WAD; Strause, Benjamin WAD; Baskette, Peter; McKenzie, Thomas
Subject: [EXTERNAL] ESPS Historic Preservation presentation responses from CFA and NCPD
Attachments: BV Hist preserv notes-2015_5_29.docx; CFA concept subm.docx

Hello:

Find attached my notes from the CFA and NCPD Historic Preservation presentation responses we received last Friday May 29. I also list the "next steps" I see.

Best regards,

Lonia Adams AIA, LEED AP | Senior Architect

Black & Veatch Special Projects Corp. | 8955 Guilford Road, Suite 260, Columbia, MD 21046

+1 410-369-3815 p | +1 410-290-7171 f | AdamsL2@BV.com

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1

HISTORIC PRESERVATION COMMUNICATION and NOTES

East Shaft Pumping Station
Prepared by Black and Veatch, Lonia Adams Architect
May 29, 2015

Commission of Fine Arts (CFA)

I talked to Frederick Lindstrom, which is our contact at CFA, on Friday. I sent him our most recent Concept Presentation by email.

Frederick Lindstrom

Assistant Secretary

(202)504-2200

flindstrom@CFA.gov

He called me back and by phone we discussed:

- I tried to arrange a conference call with him, WA, and B&V attending but he did not feel that this was necessary at this stage.
- He agreed with the DC SHPO, Andrew Lewis, that the louvers and new electrical equipment are acceptable as shown.
- He saw no additional options to explore regarding the equipment screening. He sees the Option 2 screening as the most visible screening option. He suggested we submit this project for Concept review to CFA i.e. follow their submittal procedure defined in their website. He would like to see the following revisions included in the Concept Review submittal though:
 - o Include the recommendations of a Landscape Architect. He is looking for a Landscape Architect's recommended species, spacing of the trees, and expected date of maturity.
 - o He is looking for a plant species that integrates well with the existing landscape and is "strategically placed to divert the eye" (his words).
 - o He is not looking for the plant screening to be quite as dense as shown in the rendering.
 - o He expects that this project will become a "consent calendar item", which means he expects to like our Concept submittal and will say so at the review meeting. If so, we will most likely not be required to appear at the CFA public hearing.

Next steps:

- Obtain Landscape Architect recommendations
- Prepare Concept Review submittal. (Submission requirements are attached.) The submittal deadline is the first Thursday of every month, with the exceptions of August and December when they do not hold a review meeting.

Page 1 of 2

Tarpara, Jagdish P WAD

From: Adams, Lonia [AdamsL2@bv.com]
Sent: Monday, May 11, 2015 7:48 AM
To: Lewis, Andrew (OP); Vantzeldfden, Michael W WAD; Strause, Benjamin WAD
Cc: Baskette, Peter; McKenzie, Thomas; Saturno, Vince
Subject: [EXTERNAL] East Shaft Pumping Station Historic Preservation review

Good morning everyone!

Andrew Lewis, our DC SHPO Senior Historic Preservation Specialist, and I were able to talk by phone on Friday May 8th. This is a synopsis of our meeting---

1. He will be out of the office on Monday the 11th and would not be able hold a telephone conference with us on that day.
2. He did review our presentation and he did have some responses:
 - a. He had no issue with the added louvers
 - b. He considered the new electrical equipment as a "replacement in kind" - with the new equipment being a little larger as it extended to the south.
 - c. He asked if we had considered other options for screening or possibly relocating the electrical equipment?

1. My response was:
 - a. We had discussed locating the equipment below grade, but the water table was high in this area and the cost was high.
 - b. We had developed two masonry screens but they were rejected because they would never match or coordinate with this historic building properly and they blocked the connection between the security bollards and their supporting equipment.
 - c. We had not discussed locating the equipment in a separate building or within the structure in any depth.
 - d. He asked about the possibility of locating the equipment in the building. I responded that I was not sure, but to me it appeared the equipment looked too large for that option and there may be safety/code issues with this location. I promised to discuss/verify with the B&V team.
 - e. His thoughts on the two landscape screening options:
 - i. He was generally receptive to these options.

11. He requests that we lower or shift the landscape to allow clear vision to the windows and building on the front, or southwest side.

1

National Capital Planning Commission (NCPD)

I talked to David Levy, which is our contact at NCPD, on Friday. I sent him our most recent Concept Presentation by email. He responded twice to me that day regarding our project.

David Levy

Special Advisor to the Executive Director

(202)482-7247

David.Levy@NCPD.gov

1) by phone we discussed:

- I tried to arrange a conference call with him, WA, and B&V attending but he did not feel that this was necessary at this stage.
- He agreed with the DC SHPO, Andrew Lewis, that the louvers and new electrical equipment are acceptable as shown.
 - o He wondered if the NEPA (National Environmental Policy Act) regulations would give this project a *No Adverse Effect* status. Subsequently he checked the NCPD regulations and found that his agency does allow an environmental impact categorical exclusion for:
 - "Repair and replacement of electrical components"
 - "Repair and replacement of exterior components"
 - o Therefore his agency would give this project an environment *No Adverse Effect* status.
 - o He would like confirmation that USACE also has an environmental impact categorical exclusion for this type of work.

2) by email he said:

- "I have asked our Federal Preservation Officer, Jennifer Hirsch, to take a look at these materials and advice. She has already discussed the project briefly with Andrew Lewis."

Next steps:

- We will need to wait to hear back from David regarding Ms. Hirsch comments before we can proceed with this agency.
- We will need to confirm the USACE Categorical Exclusion for environment impact prior to any submittal to this agency.

Page 2 of 2

extend the landscape east to mask more of the view to the equipment from Fourth Street NW and McMillan Drive NW road.

iii. He requests that we response from NCPD and CFA before he proceeds. He is thinking there may be more options that none of us have noticed yet and he wants to get the other agencies' responses and ideas. He requests that we make the minor revisions to the presentation and send it to NCPD and CFA for an informal review, prior to any formal submission.

1. He would like to be included in all of these NCPD and CFA informal initial meetings in person or by phone.
2. He noted that the informal meetings may be all that is required by NCPD and CFA and no formal submission may be needed.

Andrew, please let me know if I have misrepresented our conversation in any way.

Best regards,

Lonia Adams AIA, LEED AP | Senior Architect

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APPENDICES

EAST SHAFT PUMPING STATION REHABILITATION WASHINGTON AQUEDUCT MCMILLAN WATER TREATMENT PLANT, WASHINGTON D.C.